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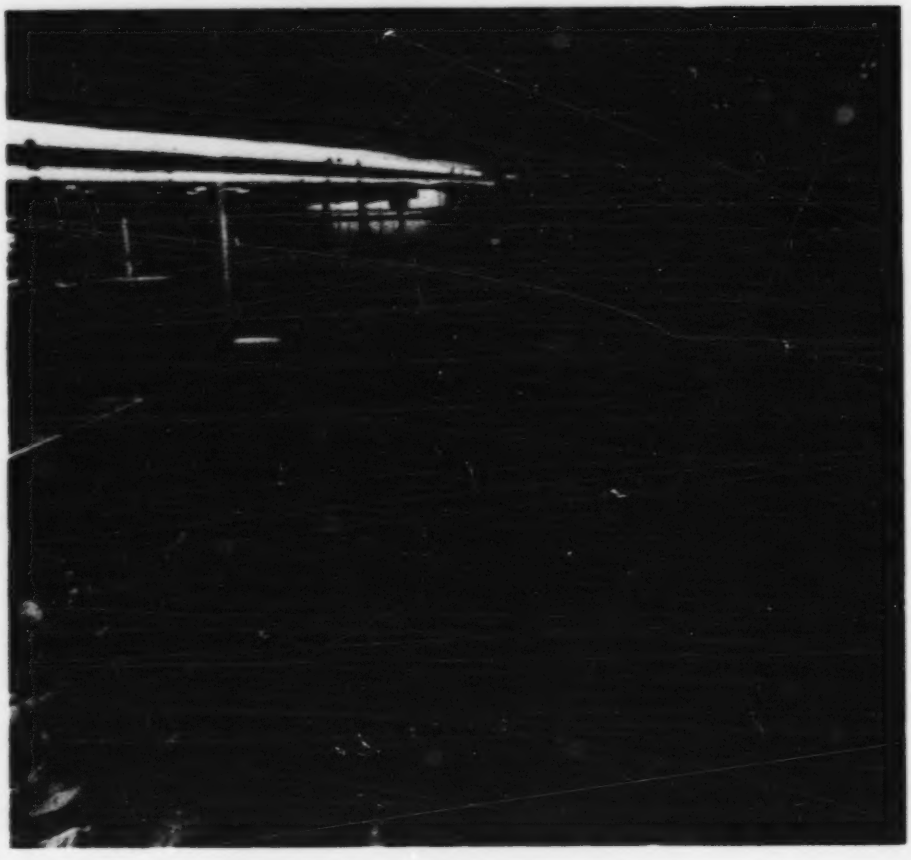
Ontario

THE ONTARIO POTATO INDUSTRY



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ECONOMICS INFORMATION

THE ONTARIO POTATO INDUSTRY

Production, Consumption, Trade, Marketing, and Distribution

by
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CHAPTER I
THE POTATO INDUSTRY IN CANADA

Potatoes have traditionally been an important food source for Canadians. Potatoes are grown in many parts of Canada, and they constitute a major agricultural crop. Total potato production in Canada has increased by 26 percent from 1960 to 1978 (Table 1). Prince Edward Island has led the provinces with a 68 percent increase. Prince Edward Island and New Brunswick are now the leading potato producers. Ontario is the third largest producer, followed by Quebec, Manitoba, Alberta, and British Columbia. Potatoes are not grown in significant quantities in Newfoundland, Nova Scotia, and Saskatchewan.

Ontario's production approaches the size of the two Maritime Provinces, yet the share of its income derived from potatoes is much less. About one-third of all farm cash receipts of Prince Edward Island and New Brunswick is derived from potatoes (Table 2). By comparison, Ontario's share is a little over 1 percent of its total receipts. The share is small for the other provinces as well. It is clear that Ontario agriculture is less dependent on potatoes as a source of income than Prince Edward Island and New Brunswick. Throughout the 1960-78 period the relative importance of potatoes as a source of income has increased for Prince Edward Island, New Brunswick, and Manitoba, and has declined in the remaining provinces.

Consumption of potatoes in Canada increased by nine million hundredweight from 1960 to 1978 (Table 3). No survey data on provincial consumption was available, therefore it was necessary to compute this information (see footnote a of Table 3). Based on the derived figures, Ontario accounts for about one-third of Canada's total consumption of potatoes. This makes it the largest consuming province. Other provinces with substantial consumption include Quebec, British Columbia, and Alberta.

Canadian self-sufficiency (production compared with use) has declined during the sixties and seventies (Table 4). Usage includes consumption, seed, and waste. Over the past decade, Canada's production has been greater than its use. The current self-sufficiency level was estimated to be about 106 percent, which is somewhat below the levels of the previous decade.

Table 1.—Potato Production in Canada by Province, 1960-1978

Year	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
					'000 hundredweights						
1960	42,696	n.a.	7,200	953	8,700	9,933	8,935	1,530	780	2,430	2,235
1961	44,108	n.a.	7,623	1,053	10,162	9,516	9,819	767	357	2,545	2,266
1962	46,878	n.a.	7,462	877	10,690	9,931	9,581	2,622	915	2,800	2,000
1963	46,061	n.a.	8,300	899	10,828	8,930	9,792	2,079	1,013	2,500	1,720
1964	47,333	n.a.	8,372	848	11,610	9,045	10,098	2,496	640	2,429	1,795
1965	45,786	n.a.	7,341	711	11,280	8,242	9,828	2,621	663	3,000	2,100
1966	54,679	n.a.	10,776	973	14,450	8,770	10,003	3,062	619	3,907	2,119
1967	46,729	n.a.	9,607	679	12,585	7,938	7,344	2,900	576	3,200	1,900
1968	52,871	n.a.	11,066	600	13,785	9,716	8,604	3,000	700	3,300	2,100
1969	51,843	n.a.	10,710	675	13,206	7,698	8,531	3,800	573	4,500	2,150
1970	55,123	n.a.	10,252	682	13,118	8,140	10,331	3,700	900	5,700	2,300
1971	48,810	n.a.	9,332	560	13,971	6,412	7,972	4,100	330	4,000	2,133
1972	43,886	n.a.	8,740	597	12,146	5,005	7,823	2,500	475	4,100	2,500
1973	47,586	n.a.	9,553	557	10,256	7,275	7,265	4,400	580	4,500	3,200
1974	55,146	n.a.	12,400	638	13,761	8,425	8,592	4,900	380	4,000	2,050
1975	46,538	142	9,281	533	10,820	7,128	7,709	4,500	525	3,400	2,500
1976	51,894	124	12,457	570	11,328	7,129	9,466	4,200	440	3,600	2,580
1977	54,969	128	11,913	623	11,093	8,032	10,760	5,500	420	3,700	2,800
1978	54,000	136	12,067	649	11,907	7,590	8,791	6,800	360	3,500	2,200
5-yr. av.											
1974-78	52,538	133[a]	11,624	603	11,782	7,661	9,064	5,180	425	3,640	2,426

[a]The figure for Newfoundland is the average for 1975-1978.

Source: Statistics Canada, CANSIM matrix 1044, April 1979.

n.a. = not available.

Table 2.—Cash Receipts for Potatoes as a Percent of Total Farm Cash Receipts in Canada by Province,[a] 1960-1978

Year	Canada	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
						percent				
1960	2.4	42.0	3.3	30.4	3.2	2.1	0.5	0.04	0.5	4.5
1961	1.6	25.5	2.5	19.2	2.6	1.5	0.3	0.02	0.5	3.3
1962	1.4	25.5	2.3	20.4	2.1	1.3	0.5	0.02	0.5	2.7
1963	1.6	31.5	2.3	24.0	2.2	1.4	0.6	0.02	0.5	2.2
1964	1.9	40.3	2.9	32.4	2.4	1.4	0.9	0.02	0.5	2.7
1965	2.7	46.4	2.7	43.0	2.9	2.1	1.6	0.03	0.9	3.9
1966	1.7	32.4	2.1	30.2	1.8	1.4	1.0	0.02	0.8	2.7
1967	1.2	22.5	1.5	21.1	1.5	0.7	0.9	0.02	0.8	2.4
1968	1.4	26.1	1.2	24.5	1.9	1.0	1.0	0.02	0.7	2.3
1969	1.5	24.8	1.4	23.6	1.6	1.0	1.2	0.02	0.9	2.4
1970	2.1	33.0	1.6	32.8	1.8	1.5	1.6	0.03	1.4	2.7
1971	1.6	26.7	1.4	25.4	1.6	1.4	1.4	0.1	1.0	2.2
1972	1.4	27.0	1.7	28.1	1.1	1.1	1.1	0.1	0.8	2.4
1973	2.3	42.7	2.4	41.9	2.1	1.5	1.1	0.1	1.2	3.4
1974	2.2	48.7	2.3	44.9	2.8	1.5	1.3	0.1	0.9	3.2
1975	1.6	29.4	1.9	31.8	1.7	1.3	1.7	0.1	0.8	2.5
1976	2.0	47.2	2.1	36.8	2.0	1.2	1.8	0.1	0.7	2.7
1977	1.7	34.9	2.0	30.3	1.8	1.2	2.0	0.1	0.7	2.4
1978	1.4	28.1	1.8	24.6	1.3	0.8	2.0	0.1	0.6	2.2
5-yr. av.										
1974-78	1.8	37.7	2.0	33.4	1.9	1.2	1.8	0.1	0.7	2.6

[a]Excludes Newfoundland.

Source: Statistics Canada, *Farm Cash Receipts*, Cat. No. 21-001.

Table 3.—Potato Consumption in Canada by Province,[a] 1960-1978

Year	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
					'000 hundredweights						
1960	26,498	666	153	1,080	875	7,640	9,080	1,346	1,360	1,918	2,380
1961	22,863	575	131	926	751	6,606	7,834	1,158	1,162	1,673	2,047
1962	24,264	612	140	976	792	7,028	8,310	1,225	1,217	1,792	2,172
1963	24,104	607	138	958	777	6,994	8,270	1,211	1,191	1,790	2,168
1964	24,987	627	141	980	793	7,249	8,608	1,245	1,223	1,856	2,265
1965	20,946	521	117	808	657	6,074	7,253	1,031	1,015	1,550	1,920
1966	20,715	511	113	784	640	5,996	7,220	999	991	1,517	1,944
1967	24,775	608	133	926	755	7,145	8,684	1,173	1,166	1,815	2,370
1968	21,491	526	115	798	650	6,168	7,555	1,010	999	1,586	2,084
1969	23,701	581	126	877	710	6,770	8,353	1,107	1,084	1,763	2,330
1970	20,040	488	104	738	591	5,671	7,122	927	888	1,504	2,007
1971	20,943	508	108	768	618	5,868	7,498	962	901	1,585	2,127
1972	22,162	540	115	810	652	6,170	7,960	1,010	932	1,689	2,284
1973	33,269	813	173	1,217	979	9,189	11,970	1,507	1,370	2,558	3,484
1974	31,806	772	164	1,158	931	8,731	11,485	1,438	1,283	2,456	3,388
1975	34,940	847	181	1,266	1,027	9,538	12,615	1,565	1,400	2,745	3,756
1976	33,747	821	174	1,219	996	9,177	12,164	1,504	1,356	2,705	3,631
1977	36,194	880	187	1,303	1,072	9,797	13,036	1,606	1,462	2,959	3,892
1978[b]	35,123	854	183	1,261	1,043	9,428	12,666	1,548	1,420	2,925	3,795
5-yr. av. 1974-78	34,361	835	178	1,241	1,014	9,334	12,393	1,532	1,384	2,758	3,692

[a] Calculated on basis of per capita consumption in Canada multiplied by population of each province. These figures represent the amount of salable product on a fresh equivalent basis for final consumption in each province.

[b] Preliminary.

Sources: Statistics Canada, *Apparent per Capita Domestic Disappearance of Food in Canada*, Cat. No. 32-226; and *Estimates of Population for Canada and the Provinces*, Cat. No. 91-201.

Table 4.—Potato Self-Sufficiency in Canada by Province,[a] 1960-1978

Year	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
						percent					
1960	105.3	n.a.	296.9	67.3	242.3	89.7	75.8	75.9	45.1	87.4	73.3
1961	119.7	n.a.	323.3	84.1	275.9	96.7	91.8	44.5	24.6	98.7	84.1
1962	120.9	n.a.	314.7	69.4	275.2	96.2	86.0	124.6	56.8	102.2	73.0
1963	120.2	n.a.	329.6	73.4	276.6	89.4	87.9	103.9	65.7	93.6	64.2
1964	119.0	n.a.	321.1	67.6	280.4	87.3	87.3	116.3	42.6	88.1	63.8
1965	127.7	n.a.	291.0	67.0	276.4	90.9	96.8	131.3	51.0	115.1	83.0
1966	147.3	n.a.	338.2	91.2	311.0	97.1	99.2	146.6	49.2	144.7	83.2
1967	118.1	n.a.	319.4	58.9	288.0	79.4	67.0	130.0	40.7	110.6	64.5
1968	140.8	n.a.	342.8	60.3	302.4	104.1	85.2	140.7	55.2	120.8	78.1
1969	130.4	n.a.	336.2	61.8	296.8	80.9	78.2	154.4	42.2	138.9	72.7
1970	153.6	n.a.	342.2	72.7	306.2	99.8	104.2	164.0	79.9	183.0	87.4
1971	139.1	n.a.	348.7	59.4	320.0	80.4	80.8	188.2	32.3	142.9	77.3
1972	123.2	n.a.	333.7	59.8	301.0	62.0	76.1	122.0	43.9	143.3	82.3
1973	99.4	n.a.	316.3	39.6	251.7	62.7	51.0	145.8	37.9	116.2	74.7
1974	116.0	n.a.	357.1	46.8	295.6	74.5	61.4	163.7	27.1	111.7	51.5
1975	95.0	15.8	312.9	37.0	258.2	60.7	51.5	145.8	34.1	91.5	56.2
1976	105.7	14.3	340.8	40.7	264.2	62.5	63.4	139.5	29.8	96.5	59.4
1977	105.4	13.8	333.0	41.6	255.7	65.7	67.3	163.1	26.6	92.4	60.5
1978	105.9	15.1	326.7	44.4	268.6	64.3	57.7	198.4	23.6	89.0	50.0
5-yr. av.											
1974-78	105.6	14.8	334.1	42.1	268.5	65.5	60.3	160.1	28.2	96.2	55.5

[a] The entries were generated using the following definitions:

1. Self-sufficiency = production divided by use.
2. Use = consumption + seed + waste according to standard methodological procedure used in Statistics Canada, *Apparent per Capita Domestic Disappearance of Food in Canada*, Cat. No. 32-226.
3. Consumption, see Table 3.
4. Seed use = seeded acreage for the following year, multiplied by 1,800 pounds/acre.
5. Waste = 20 percent of production.

n.a. = not available.

REVIEW BY PROVINCES

NEWFOUNDLAND

In Newfoundland, potatoes are grown on small acreages. This province produces about 15 percent of its own requirements and depends upon Prince Edward Island and New Brunswick for most of its supply. Except for a small amount in seed production, virtually all the Newfoundland potato crop is for the tablestock market.

PRINCE EDWARD ISLAND

Prince Edward Island stands out as the major producer in the Canadian potato industry. Self-sufficiency levels for 1978 were estimated at 327 percent, just slightly lower than the five-year average of 334 percent.

Production levels have stabilized at approximately 12 million hundredweight per year since 1976. Over the past decade the quantities produced for seed and tablestock have varied little from year to year. Some expansion in seed exports has occurred. The amount sold to processors has also increased as Prince Edward Island potatoes have often been found to be of superior quality for producing frozen french fries and other processed potato products. Prince Edward Island is dependent on sales outside the Province to domestic or foreign markets.

About three-fourths of the province's potato crop is federally inspected for disease and is therefore eligible to be sold as potato seed. While much of the crop eventually is sold for tablestock, the adherence to seed quality standards generally makes for excellent tablestock quality. In addition, potatoes that are too small for tablestock grade may sometimes be sold as small whole seed potatoes.

NEW BRUNSWICK

New Brunswick is also a major potato producer. Potato production reached a peak during the late sixties, but it has since declined and appears to have stabilized at a level of 11-12 million hundredweight per year. Self-sufficiency for New Brunswick for 1978 was 269 percent, which is about equal to the five-year average, but is somewhat lower than during the previous decade.

The amount to processing increased during the sixties and early seventies, but over the last few years, it has remained fairly constant. Almost half of New Brunswick's potato production is used for processing. Seed production has also varied little, but some expansion of seed exports has occurred.

Potato production for tablestock has faced considerable difficulty in recent years. The marketing of New Brunswick tablestock in Ontario and Quebec has been declining. Except for limited truck shipments into Ottawa, the Ontario market for New Brunswick potatoes has been replaced by Ontario and Prince Edward Island potato supplies. Truck shipments of New Brunswick tablestock into Quebec remain substantial, yet much of this market is being replaced by Quebec supplies. While the quality of New Brunswick potatoes has met the Canada No. 1 grade requirements, potatoes from Quebec and Ontario are often found to be as good, and local suppliers can effectively compete with New Brunswick potato shipments.

Considerable effort is being placed on upgrading the quality, to

enable New Brunswick to market its potatoes effectively outside the Province. The viability of the New Brunswick potato industry, like that of Prince Edward Island, is quite dependent upon its outside markets.

NOVA SCOTIA

In 1978 Nova Scotia was 44 percent self-sufficient compared with the five-year average of 42 percent. Self-sufficiency declined in the late sixties and early seventies. However, there has been some recovery in production levels recently. Nova Scotia continues to remain dependent on its neighboring provinces for much of its potato supplies.

QUEBEC

In 1978 Quebec was 64 percent self-sufficient, which is slightly less than the five-year average of 66 percent. Self-sufficiency in Quebec declined during the sixties and early seventies but it now appears to have stabilized at its current level. Virtually all of Quebec's potato processing is for potato chips; hence the amount of potatoes going to processing has increased moderately in recent years only in response to an increase in demand for potato chips. The growth in demand for frozen french fries and dehydrated potato products has resulted in increased imports of processed products into Quebec. This accounts for a net decline of self-sufficiency in processed products.

Despite the drop in self-sufficiency in potatoes for processing, the reason for a relatively stable self-sufficiency situation in potatoes in Quebec has been due to the increased marketing of tablestock. Quebec's tablestock industry has grown substantially because of greater incentive programs for building storage facilities, more government inspections, improved quality control, and better market coordination. It is expected that this province will continue to meet a large share of its own tablestock requirements.

The Quebec seed industry has undergone a moderate amount of change. Some switching to early varieties has occurred, and recent improvements in Quebec seed programs show some promise of greater production of high quality seed.

ONTARIO

The level of self-sufficiency in Ontario was 58 percent in 1978, while the five-year average was 60 percent. Self-sufficiency in Ontario expanded in the sixties because of greatly increased yields and an expansion of the processing industry.[1] In the seventies, self-sufficiency declined. The amount going to processing appears to have stabilized, while the amount going to tablestock increased. Ontario supplies generally compete with potato supplies from the United States and Prince Edward Island. The Ontario seed potato industry has not changed much over the last few years.

MANITOBA

The level of self-sufficiency in Manitoba in 1978 was 188 percent,

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[1]Bodnar, L. *Potatoes in Ontario.* Toronto: Ontario Ministry of Treasury and Economics, June 1968.

which is up significantly from the five-year average of 160 percent. Over the past two decades, Manitoba has changed from a deficit potato producer to a surplus producer. Hence this province has become considerably more active in the marketing of potatoes.

The amount of potatoes going to processing increased substantially during the sixties and seventies—currently about 70 percent of Manitoba's potato production is processed. The development of greater potato processing in Manitoba was encouraged by a favorable climate, high potato yields, relatively low-priced farm land, and suitable soils, together with government incentive programs. Some production is marketed to potato processors in the United States.

Although tablestock is a much smaller component of the total production, the processing quality of Manitoba tablestock is quite good, and hence there is usually a good market demand for it. Most Manitoba tablestock is sold within the Province. Some is also marketed outside the Province to other parts of western Canada, to northwest Ontario and sometimes to the United States. The United States is the main competitive supplier of tablestock coming into the Province. Because of large expansion of potato production in Manitoba, greater amounts of seed are required. The Manitoba seed potato industry has also increased production to meet most of the additional seed requirements.

SASKATCHEWAN

Saskatchewan was 24 percent self-sufficient in 1978, compared with a five-year average of 28 percent. Potato production in the Province has been declining. Additional potato supplies have been shipped in from Alberta, Manitoba, and the United States. There is no processing in this province, and all commercial production is consumed as tablestock.

ALBERTA

In 1978 Alberta was 89 percent self-sufficient compared with the five-year average of 96 percent. During the late sixties and early seventies Alberta had surplus production — this has declined slightly, while consumption has increased at a fairly rapid rate. Alberta now has a slight deficit in production. Most of its potato crop is irrigated and is concentrated in southern Alberta around Lethbridge and in northern Alberta around Edmonton. The major share of production goes to processing, while some is marketed as tablestock within the Province as well as to British Columbia. The yield and the quality of potato crops in Alberta is quite good provided the fields are irrigated. The prairie climate with its hot dry summers imposes limitations on potato production because of the need for irrigation. The Alberta seed industry remains steady, but it forms only a small segment of the potato industry.

BRITISH COLUMBIA

British Columbia was 50 percent self-sufficient in 1978 compared with the five-year average of 56 percent. This province has experienced some decline in self-sufficiency. Potato production remains largely unchanged, but increased consumption has been met by larger imports from the United States and other provinces. A limited amount of the crop goes to processing for potato chips, but because of increased competition from imports, the amount has been declining recently.

The tablestock market takes the major share of provincial production. Vancouver Island produces some early tablestock varieties, while late varieties are also produced on the Island and in isolated areas of the interior of British Columbia. Some irrigated land is used for potato production, especially on the mainland. Most of the tablestock requirements, however, are met by supplies from the state of Washington. British Columbia produces good quality seed potatoes and in places like the Pemberton Valley, considerable effort is put into the production of virus-free seed. However, the seed industry is still relatively small in British Columbia.

ANALYZING THE POTATO INDUSTRY IN ONTARIO

There have been a number of shifts in potato production both within and among the various provinces (Tables 1-4). Ontario's self-sufficiency has declined, and from these tables one also detects a greater dependence on imported supplies. In light of Ontario's recent tendency to rely more on outside sources, a detailed analysis of the potato industry in Ontario seemed to be justified. Some adjustment in the industry may be necessary in future years, and more complete market information can help Ontario to make these adjustments properly.

The basic purposes of this study are to:

1. Describe and quantify the structure of the Ontario potato industry;

2. Indicate the extent of changes and major trends in production, consumption, imports, and exports; and

3. Identify those factors that have an important influence on the potato industry in Ontario.

In the following chapters the potato industry is analyzed according to its three sectors — seed, processing, and tablestock. Each sector is evaluated in terms of production, utilization, and trade. The period considered comprised the crop years 1972-73 to 1978-79. Most of the data presented has come from secondary sources. Where available, information from Ontario sources was used. The above mentioned period was chosen because the data for it was relatively complete and more consistent than for other years.

CHAPTER II
POTATO PRODUCTION IN ONTARIO

Three types of potato production are described in this chapter, followed by an outline of the channels used to market each crop. Potatoes are grown for seed, direct consumption — called tablestock — or processing. Processed potatoes include such items as french fries, potato chips, and dehydrated products. Each type of market has its own requirements and specifications for the potato industry.

Before these three kinds of production are examined, it is worth looking at some general characteristics of potato production and marketing in terms of the acreage seeded to potatoes by producers.

SIZE AND LOCATION OF PRODUCTION UNITS

Potato growers reporting sales of potatoes in the *1976 Census of Agriculture* have been grouped into three acreage ranges — under 5 acres, 5 to 49.9 acres, and 50 acres and over (Tables 5 and 6). The smallest acreage group accounts for about 57 percent of the total number of the growers, but it represents only about 3 percent of the total potato production. The average acreage was 1.6 acres per grower.

SMALL-SIZE GROUP

Counties with a large number of small growers include the following:

- Durham
- York
- Haldimand-Norfolk
- Northumberland
- Simcoe
- Sudbury
- Parry Sound
- Nipissing
- Cochrane
- Hamilton-Wentworth
- Waterloo
- Grey
- Essex

Table 5.—Summary of Number of Growers, Acreage, and Total Potato Production in Ontario, Classified by Size of Farm, 1976

Size range	Growers		Acres		Production	
	Total	% of total	Total	% of total	Total, '000 lbs.	% of total
Acres:						
Under 5	1,103	57.1	1,780	3.9	25,669	2.8
5-49.9	634	32.8	10,007	21.9	214,096	22.9
50 & over	196	10.1	33,925	74.2	693,195	74.3
Total	1,933	100.0	45,712	100.0	932,960	100.0

Sources: Statistics Canada, *1976 Census of Agriculture Data Directory;* and Economics Branch, Ontario Ministry of Agriculture and Food, *Seasonal Fruit and Vegetable Report Annual Supplement,* March 1977 (also author's calculations).

Most of the growers in these counties have one or two acres of potatoes. Investment in equipment is low, and there is a great amount of hand labor involved in the harvesting.

These growers generally sell their produce directly off the farm. Many have developed a group of steady customers who always come to them to buy potatoes. Some of the produce is sold by the roadside or in farmers' markets. Some growers simply post a sign *Potatoes for Sale* in front of the farmhouse. While the volume traded in this way is not large, it is usually a low-cost selling method and one that many customers find satisfactory. This system bypasses the regular marketing channels of wholesaling and retailing. Some farmers sell their potatoes as they are dug, while others dig and store them in bulk or in 75-pound bags and sell them to customers throughout the season.

MEDIUM-SIZE GROUP

The medium-sized acreage group — those between 5 and 49.9 acres — comprises about 33 percent of all growers and accounts for about 20 percent of the total production. The average acreage per grower was 15.7 acres.

Counties with a large number of growers fitting this size-range are:

Hamilton-Wentworth	Essex
Haldimand-Norfolk	Simcoe
Brant	Sudbury
Lambton	

Although this group is more mechanized than the small-acreage growers, investment is usually kept to a low level. Many farmers market their own crop or sell it through farmers' markets or roadside stands. Others deliver their potatoes to packers or processors, or sell them cooperatively with other growers. Many potatoes are dug and sold immediately after harvest.

Table 6.—Potato Growers Classified by Size of Farm and by Counties in Ontario, 1976

Counties & districts	Under 5 a.		5-49.9 a.		50 a. & up		Total		Marketed production, '000 lb.
	No. rptg.	Av. no. acres	No. rptg.	Av. no. acres	No. rptg.	Av. no. acres	No. rptg.	Av. no. acres	
Brant	22	2.2	31	16.9	4	165.0	57	21.6	30,570
Elgin	9	1.7	18	17.2	8	111.4	35	34.7	61,659
Essex	49	2.4	115	15.5	15	74.1	179	16.8	46,885
Haldimand-Norfolk	68	1.7	41	14.1	5	94.2	114	10.2	23,242
Hamilton-Wentworth	43	1.8	37	18.1	12	134.0	92	25.6	30,994
Kent	20	2.6	27	18.6	..	..	47	11.8	8,530
Lambton	16	2.1	36	21.8	13	80.0	65	28.6	62,385
Middlesex	21	2.4	18	15.8	6	131.8	45	25.0	19,030
Niagara	38	1.6	14	8.0	2	107.5	54	7.2	6,584
Oxford	21	1.5	16	16.0	1	60.0	38	9.2	8,294
SOUTHERN ONTARIO	*307*	*2.0*	*353*	*16.4*	*66*	*103.8*	*726*	*18.3*	*298,173*
Bruce	18	1.3	5	5.4	..	..	23	2.2	993
Dufferin	18	2.1	29	20.7	28	124.2	75	54.9	82,739
Grey	32	1.1	8	13.1	1	100.0	41	5.9	113
Halton	10	1.2	6	11.5	1	50.0	17	7.7	4,639
Huron	19	1.1	2	19.5	2	144.0	23	15.2	5,078
Peel	8	1.4	10	8.4	2	110.0	20	15.8	2,220
Perth	4	.9	1	11.0	2	145.5	7	43.6	..[a]
Simcoe	47	1.9	43	18.8	54	329.7	144	129.9	373,370
Waterloo	54	1.5	4	14.8	5	122.2	63	11.9	13,230
Wellington	22	1.7	8	14.2	3	81.7	33	12.0	5,784
WESTERN ONTARIO	*232*	*1.5*	*116*	*16.3*	*98*	*235.6*	*446*	*56.9*	*488,166*
Durham	54	1.6	16	17.4	2	96.0	72	7.7	23,526
Haliburton	2	.8	..	..	..	..	2	.8	825
Hastings	18	1.4	1	30.0	..	..	19	2.9	2,335
Muskoka	11	1.0	..	..	..	..	11	1.0	90
Northumberland	34	1.5	10	9.4	2	55.0	46	5.6	4,117
Parry Sound	33	1.0	7	12.1	1	100.0	41	5.3	..[b]
Peterborough	11	1.6	6	12.0	3	91.0	20	18.2	1,373
Prince Edward	24	1.4	6	12.3	1	350.0	31	14.5	11,400
Victoria	14	1.5	5	11.6	3	55.0	22	11.4	1,155
York	31	1.6	20	14.1	8	105.6	59	19.9	44,667
CENTRAL ONTARIO	*232*	*1.4*	*71*	*13.6*	*20*	*101.8*	*323*	*10.3*	*89,488*

(Table 6 is concluded on the next page.)

Table 6.—concluded

Counties & districts	Under 5 a. No. rptg.	Under 5 a. Av. no. acres	5-49.9 a. No. rptg.	5-49.9 a. Av. no. acres	50 a. & up No. rptg.	50 a. & up Av. no. acres	Total No. rptg.	Total Av. no. acres	Marketed production, '000 lb.
Dundas	2	1.5	2	14.5	..	..	4	8.0	768
Frontenac	10	1.0	..	..	..	..	10	1.0	600
Glengarry	3	1.5	..	..	..	..	3	1.5	264
Grenville	19	1.9	4	10.5	1	55.0	24	5.6	1,260
Lanark	11	1.1	1	5.0	..	..	12	1.5	450
Leeds	15	1.5	2	12.5	..	..	17	4.3	644
Lennox & Addington	18	1.4	3	8.3	..	..	21	2.4	500
Ottawa-Carleton	25	1.4	1	12.0	1	50.0	27	3.5	1,751
Prescott	7	2.2	2	11.0	3	331.7	12	86.1	23,429
Renfrew	25	1.4	9	8.0	..	..	34	3.1	1,810
Russell	8	1.6	1	22.0	..	..	9	3.8	540
Stormont	3	1.0	3	24.3	..	..	6	12.7	900
EASTERN ONTARIO	*146*	*1.5*	*28*	*12.6*	*5*	*220.0*	*179*	*9.3*	*32,916*
Algoma	17	.9	2	12.5	1	80.0	20	6.0	
Cochrane	35	1.8	17	12.4	..	..	52	5.3	
Kenora	3	1.8	..	..	..	..	3	1.8	
Manitoulin	3	1.4	..	..	..	..	3	1.4	
Nipissing	34	1.2	6	17.6	..	..	40	3.6	
Rainy River	4	1.4	1	14.0	..	..	5	3.9	
Sudbury	43	1.6	31	14.7	3	131.0	77	11.9	
Thunder Bay	26	1.6	6	21.0	3	126.6	35	15.6	
Timiskaming	21	1.5	3	11.7	..	..	24	2.7	
NORTHERN ONTARIO	*186*	*1.5*	*66*	*14.7*	*7*	*121.8*	*259*	*8.1*	*24,217*[c]
THE PROVINCE	*1,103*	*1.6*	*634*	*15.7*	*196*	*173.1*	*1,933*	*23.6*	*932,960*

[a] Production estimate included in Huron.

[b] Production estimate included in Muskoka.

[c] Only the total figure is provided for Northern Ontario.

Sources: Statistics Canada, *1976 Census of Agriculture Data Directory* (special printout—number of producers and acres); and Economics Branch, Ontario Ministry of Agriculture and Food, *Seasonal Fruit and Vegetable Report, 1977*, March 1978, for the marketed production estimates.

.. = Nil.

A sizeable portion of the growers in this group raise early and mid-season varieties primarily. These are sold at harvest or shortly afterwards. There is little storage of this crop, as these varieties are highly succulent and thin skinned and do not keep well in storage. Sales of this crop are made as quickly as possible.

Some growers in this medium range harvest and store main-crop potatoes. Growers frequently conduct many of the marketing functions themselves such as grading, packing, and merchandising. The amount of labor involved per acre of potatoes is usually quite high in this operation.

Many of the growers in the 5- to 49.9-acre range have reasonably large farm operations, with other enterprises besides potatoes. Potatoes are often looked upon as a sideline operation that makes use of available labor and provides another source of income.

LARGE-SIZE GROUP

Growers who have 50 acres and over in potatoes are of prime importance to the potato industry in Ontario. Most of Ontario's potatoes are supplied by growers in this larger size category. They represent about 10 percent of all the potato producers, but they account for about three-fourths of the total production. The yearly decisions made by these growers significantly affect the size of Ontario's potato crop. The average acreage per grower in this group was 173.1 acres.

The counties with the highest concentration of these growers include:

Simcoe	Lambton
Dufferin	Hamilton-Wentworth
Essex	

Potatoes are usually the main enterprise on farms of this size, and the income derived from potatoes each year largely determines the farmers' net income. Many farmers sell potatoes as tablestock and either pack their own or deliver them to packers. Tablestock potatoes sold by chain stores in large cities generally originate with these large growers. Some potatoes are also sold to processors.

Producers in this group have large mechanized equipment for growing, harvesting, and storing potatoes. However, in spite of high mechanization a considerable amount of hand labor is used. The investment is sizeable on these large farms, and skillful management is required.

These producers are the most active and progressive of the potato farmers. They show a genuine interest and concern in obtaining the highest net return possible from potatoes. They strive for optimum yields, good quality, and high output per hour of labor. Much of the leadership of the potato industry comes from this group, since their livelihood usually depends entirely on what happens in the potato market.

PRODUCTION CATEGORIES

Potato production has become highly differentiated according to the market for which the crop is grown — seed, processing, or tablestock. The production characteristics of each type of product are discussed below while the statistics for each type of production are provided in Table 7.

Table 7.—Utilization of Ontario-Grown Potatoes, 1972-73 to 1978-79

Year	Marketed production										Harvested production				
	Seed		Processing		Tablestock		Waste[a]		Total			Cullage[c]		Total	
	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%	%[b]	'000 lbs.	%	'000 lbs.	%
1972-73	50,548	7.2	200,734	28.5	432,651	61.4	21,153	3.0	705,086	100.0	90.0	78,343	10.0	783,429	100.0
1973-74	48,683	6.8	213,856	29.7	436,199	60.6	21,610	3.0	720,348	100.0	93.1	53,637	6.9	773,985	100.0
1974-75	43,675	5.6	258,253	32.9	459,272	58.5	23,542	3.0	784,742	100.0	87.7	110,116	12.3	894,858	100.0
1975-76	64,875	8.4	270,000	35.0	412,929	53.6	23,128	3.0	770,932	100.0	86.7	117,850	13.3	888,782	100.0
1976-77	62,059	6.6	275,962	29.6	566,950	60.8	27,989	3.0	930,960	100.0	87.0	139,660	13.0	1,072,620	100.0
1977-78	43,131	4.6	324,587	34.7	538,929	57.7	28,041	3.0	934,688	100.0	85.9	153,400	14.1	1,088,088	100.0
1978-79	42,618	5.6	272,349	36.0	419,039	55.4	22,701	3.0	756,707	100.0	81.5	171,608	18.5	928,315	100.0
5-yr. ave.															
1974-75 to 1978-79	51,272	6.1	280,230	33.6	479,424	57.3	24,680	3.0	836,006	100.0	85.8	138,927	14.2	974,533	100.0

[a]Waste includes amount after grade-out to final use.

[b]Percent of production harvested that was eventually marketed.

[c]Cullage is the amount harvested but not sold. It includes small and damaged potatoes of unsalable quality. Cullage was determined by subtracting the marketed production from the harvested production.

Sources: *Agricultural Statistics for Ontario, 1972-78.* Economics Branch, Ontario Ministry of Agriculture and Food.
Plant Quarantine Division. Agriculture Canada.
Ontario Potato Growers' Marketing Board.

Table 8.—Ontario Seed Production by Class, 1972-78

Year	Inspected seed				Non-inspected	Total
	Elite I, II, III	Foundation	Certified	Total		
	'000 pounds					
1972	2,167	19,029	13,451	34,647	15,901	50,548
1973	1,321	19,655	9,238	30,214	18,469	48,683
1974	759	15,011	17,920	33,690	9,985	43,675
1975	1,788	18,797	9,815	30,400	34,475	64,875
1976	348	11,538	19,144	31,030	31,029	62,059
1977	1,282	8,926	23,911	34,119	9,012	43,131
1978	1,278	13,450	18,558	33,286	9,332	42,618

Source: *Plant Quarantine Division*, Agriculture Canada. Non-inspected seed from Table 11, Chapter III of this report.

SEED PRODUCTION

Potatoes are propagated asexually by using tubers as seed, and since one tuber produces only 5 to 15 new tubers, a substantial portion of the potato acreage has to be devoted to the production of seed potatoes. The bulk of Ontario's seed production is divided among six varieties, each of which has characteristics that make it suitable for a particular market. Healthy and viable seed is important to successfully grow a crop of potatoes. Potatoes are highly susceptible to virus diseases, and when crops become infected the result is lower yields and poor quality. These problems are usually eliminated or reduced through laboratory testing and the proper selection of seed free from viruses and other infectious diseases. Most of this initial work is now conducted at testing stations in Quebec and Prince Edward Island. The various classes of seed are Elite (I, II, III), Foundation, and Certified. Each Elite class represents another generation.

Seed potatoes generally sell at higher prices than potatoes for consumption. However, seed production remains a small component of Ontario's total potato production (Table 7). Producers of inspected seed potatoes must be good managers in maintaining a crop that is as disease-free as possible. In Ontario the amount of inspected seed produced and the number of growers remain fairly stable as only a small number of growers find seed potato production a desirable operation. Table 8 gives the figures for Ontario seed potato production by class for the years 1972 to 1978. While the total inspected seed production remains fairly constant, the production of individual seed classes varies considerably. Since the class of seed changes with each generation of seed produced, some yearly variation in the amount of seed produced from each class can be expected.

Non-inspected seed is the progeny of Foundation or Certified seed grown by commercial potato producers. While most of the potato crop grown by these producers is sold for tablestock or processing, sometimes part of the production is saved for seed purposes. The use of non-inspected seed grows when the demand for seed increases rapidly or when inspected seed supplies are not available in sufficient quantity.

Table 9.—Production of Inspected Seed in Ontario by Variety, 1972-78

Variety	1972	1973	1974	1975	1976	1977	1978
				'000 pounds			
Kennebec	12,190	9,912	10,456	13,184	10,754	14,385	13,185
Sebago	8,072	6,188	8,405	5,262	6,245	8,274	6,318
Norchip	110	580	..	726	4,298	2,173	6,993
Katahdin	2,577	3,801	4,536	6,547	4,041	2,795	2,682
Superior	3,150	2,986	3,992	2,299	3,529	3,397	1,849
Chieftain	1,412	2,416	1,806	332	742	1,877	1,363
Irish Cobbler ...	369	646	356	403	571	412	397
Cherokee	1,200	104	37	..	422	383	64
Norland	450	439	230	467	252	148	196
Others	5,117	3,142	3,872	1,180	176	275	239
Total	34,647	30,214	33,690	30,400	31,030	34,119	33,286

Source: *Plant Quarantine Division*, Agriculture Canada.
.. = Nil.

Ontario inspected seed production has declined slightly from 1972 to 1978 (Table 9). Varieties such as Kennebec, Sebago, Superior, Katahdin, and Chieftain continue to be produced in sizeable quantities, and the production of Norchip seed has increased dramatically. Other seed varieties are grown in small amounts in various areas of Ontario.

PRODUCTION FOR PROCESSING

About one-third of Ontario's potato production is used for processing. This amount increased in the sixties and early seventies, but production has stabilized somewhat in recent years.

The figures for potatoes used for processing can be found in Table 7 for the period 1972-73 to 1978-79. Data is incomplete for the years prior to 1972-73, however trade reports[1] indicate there was increased development in potato processing during the sixties in Ontario.

Potatoes are processed into chips, french fries, dehydrated products, prepeelers, and soups and stews (Table 10). The greatest portion, about 60 percent, is used for the manufacture of potato chips. About 20-25 percent is used for frozen french fries and about 10-12 percent for dehydrated products. The remaining amount is used for soups, stews, prepeelers, and canning.

About 130 growers sell Ontario potatoes to processors but most of these growers also market tablestock potatoes. The growers receive a negotiated price from the processors. Prior to planting, the Ontario Potato Growers' Marketing Board (OPGMB) represents the growers in negotiating price and other terms and conditions with the processors.[2]

The preplanting contracts provide growers with certainty of a market

[1] Canadian Horticultural Council, *Proceedings of Canadian Potato Industry Conference*, August 1966.

[2] A sample contract is shown in the Appendix.

Table 10.—Ontario Potatoes for Processing by Type of Product, 1976, 1977, and 1978

	1976		1977		1978	
	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%
Soups & stews[a] ...	9,454	3.4	10,471	3.2	10,428	3.8
Prepeelers	8,003	2.9	9,779	3.0	13,303	4.9
Dehydrated	28,798	9.6	41,638	12.8	27,554	10.1
French fries	69,426	26.0	62,627	19.3	56,111	20.6
Chips	160,279	58.1	200,072	61.7	164,953	60.6
Total	275,960	100.0	324,587	100.0	272,349	100.0

[a]Includes canning potatoes.

Source: *Ontario Potato Growers' Marketing Board.*

for their product. It also allows them to mechanize their operations and develop their farms into large-scale, highly efficient potato producing units. In addition, contracts make it possible to prearrange deliveries and also specify conditions, such as variety, specific gravity, temperature, size, and freedom from disease and deformities, in order to ensure a high-quality processed product.

TABLESTOCK PRODUCTION

Ontario's production is divided into three major components — seed, processing, and tablestock (Table 7). The tablestock industry is large and accounts for about 50-60 percent of the total. Nearly all of the 1,900 growers reporting potatoes for sale market some portion of their produce as tablestock. Ontario's tablestock production encompasses everything from small-scale garden-type operations to large commercialized farm operations of several hundred acres.

Harvesting tablestock potatoes in Ontario is conducted over a fairly long season. It begins in July in Essex and Elgin Counties with a few early varieties. These potatoes are dug and sold immediately after harvest. During this early part of the season, new-crop supplies come in from Virginia, California, and North Carolina, and are sold at relatively high prices. Ontario early varieties break into this market and eventually replace most of the imported supplies.

During August and September, Ontario tablestock supplies increase substantially. Midseason varieties are ready by then, and nearly all areas of the Province have some local potatoes available for sale. Very few potatoes are stored at this time, as these varieties are highly succulent and generally have a low storing quality. The supplies of potatoes are usually not large at this time, because Prince Edward Island and Ontario main-crop potatoes have not yet reached the market. Producers of these midseason varieties try to sell quickly after harvest while their potatoes are still of good quality and supplies are relatively low. In this way, farmers avoid heavy storage costs and any deterioration in quality due to storage.

Agriculture Canada has estimated that 30-40 percent of the Ontario

potato acreage is planted to early and midseason varieties. The quantity of these varieties in Ontario indicates the popularity of the practice of selling immediately after harvest and thus avoiding storage.

Three factors present major problems in producing early and mid-season varieties. Yields are quite variable, for drought and climatic conditions significantly affect the crop. Second, in some years, excessive potato production in California, Virginia, North Carolina, or Maryland results in large quantities coming into Ontario and exerting a downward pressure on potato prices here. A third factor affecting early varieties is the attitude of the buyers for large chain stores and institutions. Buyers are often willing to pay more for potatoes from the United States, because they are more dependable in quality and quantity.

A fall crop — called main-crop potatoes — is grown in nearly all areas of the Province and is harvested during October. Yields of fall varieties are good and this is the time of peak production. Supplies of Ontario potatoes at this time of the year are excess to current consumption. Surpluses must be stored to meet consumer demand for tablestock during the following months. Competition between Prince Edward Island and Ontario tablestock potatoes occurs during this period because of Prince Edward Island's somewhat higher price but consistent high quality versus Ontario's lower price and variable quality.

There are many operations involved in marketing the main-crop supplies. These are discussed in detail in Chapter V.

PRODUCER MARKETING BOARDS

The Ontario Farm Products Marketing Act *allows producers in Ontario to organize for the purposes of:*

1. Collective bargaining and the sale of designated farm products; and

2. The actual marketing of designated farm products by the local board acting as agents for producers.

The Ontario Farm Products Marketing Board (OFPMB) administers this act and to a degree oversees the operation of each marketing scheme approved under the Act. There are twenty-one local boards consisting of commodity producers supervised by the OFPMB. Their objectives are to:

1. Stabilize farm prices in keeping with the cost of production;

2. Assure a continuity of supply; and

3. Promote a more efficient marketing system.

Powers granted to each local board vary considerably and range from simple promotion and development to negotiation or the establishment of price. In some cases their powers extend to the regulation of production and marketing quotas. There are two province-wide boards for potatoes in Ontario — one for processing potatoes and one for tablestock potatoes.

Ontario Potato Growers' Marketing Board (processing). The Ontario Potato Growers' Marketing Board (OPGMB) is a price negotiating board for processed potatoes. Its basic purpose is to secure, by negotiation, a fair and equitable return to potato growers. In addition, it also works to strengthen the processed potato industry through improvements in grades, quality and other market aspects.

The functions of the OPGMB are the negotiation of price, terms, and conditions of sale for potatoes contracted for processing into french fries, soups and stews, prepeelers, potato chips, and dehydrated products. A separate negotiating committee is established for each of the aforementioned products. Each committee consists of six members — three appointed by the OPGMB and three appointed by processors. Prices are established by the committee before planting time so that growers and processors may arrive at a firm agreement before the crop is sown. Part of the negotiating process is to consider the expected price for tablestock potatoes and the cost of raw products of competing processors in other provinces. This process allows prices to be established in advance but still remain competitive.

In 1978 the Board instituted a two-tier pricing system. This scheme was designed to keep the price for processing potatoes at levels that would enable processors to remain competitive with out-of-province processors in a depressed market situation. The tier 1 price is the contract price established before planting by an agreement between the OPGMB and the respective processor representatives. Growers and processors may contract at the tier 1 price. The tier 2 price was developed to encourage the use of potatoes for processing and increase the amount of contracting. The tier 2 price provision allows processors to purchase limited quantities for processing at prices similar to tablestock prices. The amount processors are allowed to purchase at tier 2 is set by the Board and is based on a certain percentage of the amount contracted under tier 1 prior to April 1. All other purchases by processors occur at the tier 1 price. (For details see Appendix, Two-Tier Pricing System.)

The operations of the Board are financed by a fee of 4¢ per hundredweight, deducted by the processors. Small whole potatoes processed by canning or freezing are exempt from the regulations and fees of the Board.

Ontario Fresh Potato Growers' Marketing Board. The Ontario Fresh Potato Growers' Marketing Board (OFPGMB) was instituted in 1979. It is a promotional board for tablestock potatoes whose purpose is to stimulate, increase, and improve the marketing of fresh potatoes. It carries out promotional efforts through research, quality improvement, and greater market development. The Board also provides up-to-date market information to growers by way of newsletters, group meetings, and conferences. It regulates quality through the licensing of packers and frequently meets with packers to discuss potato quality.

Promotional efforts consist of discussions with consumers to encourage the consumption of potatoes in various forms and to discover changing consumer tastes and preferences. In addition, the Board conducts advertising programs to develop a better public image for Ontario potatoes.

The OFPGMB is financed by a fee of 4¢ per hundredweight collected by potato packers. Growers with less than five acres of potatoes are not required to belong to the Board.

Members of the OFPGMB are active participants in the *Eastern Canada Potato Growers' Council, Canadian Horticultural Council,* and other organizations concerned with potato marketing. Through the actions of these councils and organizations, the provincial Board tries to provide greater long-term stability to the potato-producing sector.

CHAPTER III
POTATO CONSUMPTION

Potatoes are used for seed, tablestock, and processing. These uses are reviewed in this chapter. Estimates of total and per capita consumption are derived by merging production data with interprovincial and international trade data. Ontario's consumption of processed products is estimated for the years 1972-73 to 1978-79 using Canadian and Ontario data and the amount of fresh potato sales to consumers — tablestock consumption — is calculated for the same years using a provincial balance sheet.

SEED USE

The amount of imported seed has increased from 2 percent to 16 percent of total seed between 1972 and 1979 (Table 11). Most of the seed planted — currently about 90 percent — comes from inspected seed produced by registered seed growers and carries a Canadian or United States inspector's tag to certify the purity of the seed and the freedom from viral and bacterial diseases. A survey of Ontario seed production was presented in Chapter II, and inspected seed from other Canadian provinces and countries is discussed in Chapter IV.

Some commercial growers follow the practice of using inspected seed every second year. They purchase good quality inspected seed one year and save part of that year's production as seed for the next year. Potatoes are easily infected with disease and this susceptibility increases with each succeeding generation. Most growers will not use seed that is more than one year away from inspected seed.

Currently, about 6 percent of the seed is used as parent stock for growing additional seed (Table 12). Virtually all of this is inspected seed, and is either grown by registered seed growers for seed potato production, or by commercial growers who in turn save a portion of their crop for seed purposes. About 94 percent of the seed is used to grow tablestock and processing potatoes. In Ontario, it is obvious that the emphasis is on production for the commercial market (Tables 10, 11, and 12).

Table 11.—Seed Use in Ontario by Source, 1972-79

Year planted	Ontario seed				Other seed						Total inspected[e]
	Inspected[a]		Non-inspected[b]		Canadian[c]		Imported[c]		Total[d]		
	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%	%
1972	34,195	41.8	4,488	5.5	41,655	51.0	1,362	1.7	81,700	100.0	94.5
1973	31,860	40.1	15,901	20.0	30,901	38.9	758	1.0	79,420	100.0	80.0
1974	26,687	30.7	18,469	21.3	40,898	47.1	776	0.9	86,830	100.0	78.7
1975	31,403	37.4	9,985	11.9	42,113	50.1	479	0.6	83,980	100.0	88.1
1976	25,423	27.7	34,475	37.6	29,396	32.0	2,476	2.7	91,770	100.0	62.4
1977	27,326	29.9	31,029	34.0	23,412	25.6	9,623	10.5	91,390	100.0	66.0
1978	31,471	37.3	9,012	10.7	27,635	32.8	16,242	19.2	84,360	100.0	89.3
1979	32,510	38.0	9,332	10.9	29,835	34.9	13,823	16.2	85,500	100.0	89.1

[a]Production less seed exports.

[b]Total seed less all other seed sources. This seed is assumed to originate in Ontario.

[c]In-shipments less 3 percent for shrinkage and loss.

[d]Based on acreage planted and a seeding rate of 1,900 pounds per acre. This seeding rate is estimated to be slightly greater than the rate used by Statistics Canada (Table 4 in Chapter I). Also the area planted for 1976 is estimated to be 48,300 acres, which is somewhat greater than the acreage used by Statistics Canada.

[e]Includes Ontario inspected seed plus other Canadian and imported seed.

Sources: *Plant Quarantine Division*, Agriculture Canada; and *External Trade Division*, Statistics Canada.

Table 12.—Seed Utilization by End Use, Ontario, 1972-79

Year	Seed used for: Growing seed[a] '000 lbs.	%	Tablestock & processing[b] '000 lbs.	%	Total '000 lbs.	%
1972	4,699	5.8	77,001	94.2	81,700	100.0
1973	4,308	5.4	75,112	94.6	79,420	100.0
1974	3,815	4.4	83,015	95.6	86,830	100.0
1975	6,290	7.5	77,690	92.5	83,980	100.0
1976	6,308	6.9	85,462	93.1	91,770	100.0
1977	4,241	4.6	87,149	95.4	91,390	100.0
1978	4,891	5.8	79,469	94.2	84,360	100.0
1979	4,905	5.7	80,595	94.3	85,500	100.0

[a]Includes registered parent seed used for producing registered seed plus registered seed used by commercial growers to produce seed supplies.

[b]Includes registered seed and non-registered seed.

Source: Table 11, plus additional calculations.

PROCESSED CONSUMPTION

Processed potato products offer the consumer a wide choice in meal preparation. The many types of processed products make it possible for today's consumer to provide greater meal variety without increased knowledge or effort.

Throughout the seventies, the consumption of frozen potato products (mostly frozen french fries) increased faster than any other potato product. In fact, by 1979 more than half of all processed potato products consumed were in the form of frozen potato products (Table 13). These are marketed to individual consumers through retail stores, and to the institutional trade. The retail demand has increased because consumers have found that heating frozen french fries in the oven is much easier than making their own from fresh potatoes. However, most of the growth in sales of these products has been to the institutional trade. The tendency for the general public to eat more meals away from home has increased the demand for frozen french fries and other frozen potato products in restaurants. Also, the rising cost of labor has helped to increase the use of frozen potato products. These frozen par-fried products — potatoes cut into strips, partially cooked in deep fat, then frozen and packaged — are well adapted to the needs of restaurants and other parts of the institutional trade.

Other frozen potato products, such as hash browns, potato patties, potato puffs, diced, and mashed potatoes, in addition to frozen french fries, continue to be consumed in significant quantities. These products are mainly used by restaurants or in frozen dinners.

Table 13.—Ontario Total and Per Capita Consumption of Processed Potatoes (Fresh Equivalent Basis) by Type, 1972-73 to 1978-79

	Total and per capita consumption of processed potatoes, pounds													
	Frozen[a]		Dehydrated[a]		Chips[a]		Canned		Prepeelers		Starch & flour		Total Ontario	
Year	Total '000	Per capita lbs.	Total '000	Per capita lbs.	Total '000	Per capita lbs.	Total '000	Per capita lbs.	Total '000	Per capita lbs.	Total '000	Per capita lbs.	Total '000	Per capita lbs.
1972-73	187,854	23.9	49,518	6.3	148,554	18.9	9,365	1.2	6,000	0.8	22,627	2.9	423,918	54.0
1973-74	242,653	30.4	65,452	8.2	178,797	22.4	10,068	1.3	6,000	0.8	31,956	4.0	534,926	67.1
1974-75	281,521	34.7	126,563	15.6	204,448	25.2	10,188	1.3	7,000	0.9	29,836	3.7	659,556	81.4
1975-76	308,997	37.6	89,576	10.9	166,004	20.2	11,341	1.4	7,000	0.9	43,110	5.2	626,028	76.2
1976-77	313,249	37.7	80,597	9.7	179,474	21.6	9,120	1.1	8,003	1.0	29,548	3.6	619,991	74.7
1977-78[b]	397,273	47.3	104,148	12.4	194,017	23.1	10,791	1.3	9,779	1.2	34,347	4.1	750,355	89.4
1978-79[b]	390,559	46.1	84,720	10.0	202,481	23.9	10,496	1.2	13,303	1.6	36,725	4.3	738,284	87.1

[a]Various economic models were tested to determine if any per capita consumption differences existed between Ontario and Canada for frozen potato products, dehydrated potatoes, and potato chips. In all cases, differences found were less than 5 percent and considered not significant, given the degree of estimation required by Statistics Canada to obtain the basic data. Because more complete information was available on a Canada-wide basis it was assumed that the Canada per capita consumption for the above-mentioned products is a reasonable approximation of the Ontario per capita consumption.

[b]Preliminary estimate, subject to revision.

Source: Appendix Tables 1 to 6.

Dehydrated potato products encompass a wide range of items widely used by airlines, railways, and the military. Dehydrated products have the advantage of being easily transported over long distances and easily stored for long periods without problems of perishability. Potato flakes and granules are frequently used for making instant mashed potatoes, as a french fry mix or an ingredient in soups, baby food, and other food products. Other dehydrated products include sliced and diced potatoes. These are sold as packages of scalloped and au gratin potatoes for casseroles or used as an ingredient in meat, hashes and stews, frozen dinners, meat pies, or for potato salad.

In 1978-79 the per capita consumption of potato chips was about 4-5 pounds — 20-25 pounds fresh equivalent — per year. Consumption remained steady throughout most of the seventies. Potato chips are a convenient form of potato product that requires no preparation. They are ideal for picnics, light lunches, and snacks. Potato chips may be plain or flavored (cheese, barbeque, garlic, onion, etc.). Their shape may be plain sliced or waffle cut. Potato chips are generally made by cutting raw potatoes into thin slices and frying them in deep fat to produce their distinctive flavor.

Another type of chip is the fabricated potato, which is made with a dough using dehydrated potato products. This product is crisper and more uniformly shaped and may be fortified with additional vitamins; however, this product is generally less flavorful and more expensive to process. About 5 percent of the potato chips consumed are of this type, all of which are imported into Ontario from the United States.

The demand for potato chips has remained fairly steady. Although the consumption of snack foods has increased considerably, a wide variety of new snack food products, not made from potatoes has come on to the market to compete with the potato chip.

Canned potatoes are not consumed in large quantities, and average about 1-2 pounds per person (fresh equivalent). These include whole, diced, sliced, strip, and julienne forms of canned potatoes. A considerable portion of the canned potatoes consist of potatoes smaller than 1½ inches in diameter which are canned as whole potatoes. Potatoes are also used in canned soups and stews. Little change has occurred in the consumption of canned potatoes in the past six years.

Ontario's consumption of prepeelers is not large. However, this market has remained stable and is increasing. Prepeelers are used by the institutional trade. They may be left whole, cut into julienne strips for french frying, precooked and shredded for hash browns, or prefried in deep fat for french frying. The use of prepeeled potatoes reduces labor cost for food preparation in restaurants and other institutions.

Potato starch and flour consumption has remained steady throughout the seventies. The excellent cohesive strength and the chemical nature of potato starch makes this product superior to cereal starches for many industrial uses.

Potato flour is used for:

1. Bread and pastries;
2. Breading for fried foods;
3. Thickening agents; and
4. Ingredients in snack foods.

Table 14.—Ontario Production, Consumption, and Price of Tablestock Potatoes, 1972-73 to 1978-79

	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
				'000 pounds			
1. Harvested production[a]	783,429	773,985	894,858	888,782	1,072,620	1,088,088	928,315
2. Cullage & loss[b]	78,343	53,637	110,116	117,850	139,660	153,400	171,608
3. Marketed production[a]	705,086	720,348	784,742	770,932	932,960	934,688	756,707
4. Waste, 3%[c]	21,153	21,610	23,542	23,128	27,989	28,041	22,701
5. Net production (3-4)	683,933	698,738	761,200	747,804	904,971	906,647	734,006
6. Potatoes for seed[d]	50,548	48,683	43,675	64,875	62,059	43,131	42,618
7. Potatoes for processing[e]	200,734	213,856	258,253	270,000	275,962	324,587	272,349
8. Tablestock production (5-6-7) ...	432,651	436,199	459,272	412,929	566,950	538,929	419,039
9. Fresh for livestock feed[f]	..	..	48,963	..	..	..	..
10. Shipments to other Canada[g]	17,439	38,907	74,785	32,490	33,565	20,606	4,494
11. Exports[h]	3,983	9,127	18,875	6,766	17,158	9,936	3,499
12. Ontario production for Ontario fresh consumption (8-9-10-11)	411,229	388,165	316,649	373,673	516,227	508,387	411,046
13. Net shipments from Maritimes[i] ...	201,450	210,206	261,250	157,357	121,561	180,515	182,876
14. Net shipments from other Canada[j]	18,049	17,207	15,846	22,323	21,171	19,668	18,801
15. Imports[k]	53,962	53,340	63,480	79,823	114,667	72,664	84,934
16. Ontario net fresh consumption (12+13+14+15)	684,690	668,918	657,225	633,176	773,626	781,234	697,657
				number			
17. Ontario Population,[l] '000	7,860	7,982	8,113	8,218	8,309	8,399	8,472
				pounds			
18. Ontario per capita consumption 16 divided by 17	87.1	83.8	81.0	77.0	93.1	93.0	82.3

(Table 14 is concluded on the next page.)

Table 14.—concluded

	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
	dollars per hundredweight						
19. Av. retail price, July-Sept.[m]	6.30	10.80	10.90	11.10	10.10	8.60	12.20
20. Av. retail price, Oct.-Apr.[m]	6.70	9.40	6.00	10.70	9.30	7.50	8.40

[a]Economics Branch, Ontario Ministry of Agriculture and Food, *Agricultural Statistics for Ontario, 1972-78.*

[b]Cullage and loss was considered to be the difference between harvested production and marketed production as reported in *Agricultural Statistics for Ontario.*

[c]This represents wastage after grade-out to final use.

[d]Ontario inspected seed production plus noninspected seed use (Table 8).

[e]*Ontario Potato Growers' Marketing Board* (Table 7).

[f]*Fruit and Vegetable Division,* Agriculture Canada. Fresh potatoes diverted to livestock and surplus disposed under federal stabization program.

[g]*Fruit and Vegetable Division,* Agriculture Canada. Federally inspected shipments to other provinces.

[h]Agriculture Canada, *Crop and Seasonal Price Summaries.*

[i]P.E.I. Potato Growers' Marketing Board, and Agriculture Canada, unload reports. Adjustment made for shrinkage and loss.

[j]Agriculture Canada unload reports and Ontario Ministry of Agriculture and Food's *Weekly Potato Summary.* Adjustment made for shrinkage and loss where appropriate.

[k]*External Trade Division,* Statistics Canada. Adjusted for shrinkage and loss.

[l]Statistics Canada, *Estimates of Population for Canada and the Provinces,* Cat. No. 91-201. Average June population for two calendar years used on potato crop year.

[m]*Ambler Pricing Service.*

.. = Nil.

Potato starch is used for:

1. Sizing paper and textiles;
2. Food products;
3. Swedish and German style breads;
4. Crackers;
5. Matzoth;
6. Soups, gravies, and puddings; and
7. Candies (jelly beans, orange slices, and gumdrops.

TABLESTOCK CONSUMPTION

Tablestock consumption accounts for the major portion of the potatoes used in Ontario. Fresh potatoes have long been known for their food value and low cost. Boiled, mashed, baked or fried, they blend in well with many other foods.

While fresh potatoes were once considered a staple in the diet, today's consumer has many alternatives that supply equivalent nutrients. Food items, such as spaghetti and pasta products, fresh or processed vegetables, and processed potato products are substitutes in meals for tablestock potatoes. Tablestock consumption declined from 1972-73 to 1975-76 as fresh potatoes lost ground to processed potato products, such as frozen french fries, dehydrated potatoes, and other substitutes (Table 14). The amount sold to processors however, continued to increase and sales outside the Province remained active. This caused tablestock prices to strengthen during the period. A substantial decline in maritime shipments during 1975-76 caused tablestock prices to rise to even higher levels and consumption dropped to a low level of 77 pounds per capita.[1]

The expansion in Ontario's production during 1976-77 increased the consumption of tablestock considerably. Larger quantities of early and midseason crop potatoes were offered at prices that encouraged consumers to purchase more tablestock. Because of good export potential, maritime supplies into Ontario that year were light. However, ample Ontario maincrop supplies kept prices at lower levels the previous year and consumption remained strong.

During 1977-78 Ontario production remained high. The consumption of tablestock also remained at a high level, but prices were considerably lower. Tablestock prices were somewhat lower in the fall and continued to drop significantly throughout the season. This drop was caused mainly by larger maritime shipments during a period when Ontario production was also quite large. Fortunately for Ontario growers, there was an increased demand for processing potatoes and a considerable decline in imports from outside Canada. Nevertheless, tablestock supplies remained large and at lower prices than the year before.

Consumption declined during 1978-79 as Ontario production declined, mainly in response to the low tablestock prices of the previous year. The smaller production of Ontario tablestock caused the prices to consumers to rise and as a result, consumption fell. Even the larger maritime shipments, the increased imports, and the decline in shipments out of the Province failed to offset the effect of the reduced Ontario production.

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[1] In this section a demand function showing the relationship between the quantity demanded and the price paid by consumers would have been helpful. However, there was insufficient data available to use this estimation method properly.

CHAPTER IV
ONTARIO TRADE

Trade is an important component of the potato industry because Ontario's production and consumption are never completely balanced. Potatoes and potato products are transported across Ontario's boundaries whenever there is sufficient incentive to export or import. This trade includes imports of seed, processing, and tablestock potatoes from other provinces and countries, and exports of these to other provinces and countries. This chapter discusses the nature of Ontario's imports and exports and the quantities traded. To provide some indication of the relative importance of trade, exports are compared with the size of Ontario's production while imports are compared with the size of Ontario's consumption.

SEED SECTOR

SEED IMPORTS FROM OTHER PROVINCES

High-quality seed is necessary for producing a good quality, high-yielding crop of potatoes. Ontario produces some seed, but it does not produce enough to meet its own needs. Most imported seed comes from other Canadian provinces — usually from Prince Edward Island and New Brunswick. This seed accounted for about 30 percent of Ontario's total seed requirements. Prince Edward Island is the leading supplier followed by New Brunswick and Manitoba (Table 15). Supplies from New Brunswick have been declining recently and the quantity from Manitoba is very small relative to the amounts shipped from the Maritimes. Maritime seed is generally the cheapest source of imported seed potatoes, mainly because federal freight subsidy programs reduce the transportation cost on potatoes coming from the Maritimes.

The primary varieties coming from other provinces, listed in order of importance, are Kennebec, Superior, Sebago, Netted Gem, Norchip, Katahdin, and Irish Cobbler. All bags of seed potatoes from other provinces carry a tag indicating that the fields in which the seed was grown

Table 15.—Seed Imports to Ontario from Other Provinces, 1972-73 to 1978-79

Year	P.E.I.	N.B.	Man.	Total
		'000 pounds		
1972-73	14,532	16,455	870	31,857
1973-74	27,239	14,303	621	42,163
1974-75	18,430	23,603	1,382	43,415
1975-76	13,967	13,252	3,086	30,305
1976-77	12,126	11,268	742	24,136
1977-78	19,452	8,210	828	28,490
1978-79	22,535	7,693	530	30,758

Source: *Plant Quarantine Division*, Agriculture Canada.

were inspected by Agriculture Canada. The tag verifies that a field inspection of the plants found the seed produced to be free from bacterial ring rot and relatively free — at least within allowable limits — of most viral and bacterial diseases. Additional information contained on the tag includes the grower number, variety, grade, and class.

SEED IMPORTS FROM OTHER COUNTRIES

In the past, nearly all of the imported seed purchased by Ontario growers was Canadian seed. Recent trends however, indicate that seed imported from other countries is increasing (Table 16). Seed imports from the United States account for about 15 percent of Ontario seed requirements. Most of this seed comes from Minnesota, Wisconsin, and North Dakota. These states often have large farms specializing in growing seed potatoes.

The increase in seed imports from the United States has occurred for a number of reasons. One reason is that Ontario growers cannot always find adequate Canadian supplies of the variety they want. This has sometimes been true of such varieties as Norchip, Superior, Netted Gem, and Chieftain. A second reason is that growers have become dissatisfied at times with the quality of the Canadian seed they are getting and they try United States seed as an alternative. Sometimes these growers are satisfied with the results and sometimes not.[1] Another reason for higher imports has been the greater availability of new varieties in the United States.

Frequently new varieties that seem to have promise for Ontario growers are in short supply in Canada. Many United States seed farms however, carry ample supplies of these new varieties, and often Ontario seed growers are able to purchase seed there.

Generally, United States seed is more expensive than domestic seed. While Maritime seed comes to Ontario under a subsidized freight rate, Ontario growers pay the full freight cost when purchasing seed from the United States. In addition, the current unfavorable exchange rate on the Canadian dollar further increases the amount Ontario buyers have to pay to purchase United States seed.

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[1] "Do we need Maritime seed?" *The Grower*, March 1977.

Table 16.—Seed Potatoes — Imports from and Exports to Other Countries, 1972-73 to 1978-79

Year	Imports	Exports
	'000 pounds	
1972-73	781	278
1973-74	800	3,527
1974-75	494	228
1975-76	2,553	4,977
1976-77	9,921	3,704
1977-78	16,744	2,648
1978-79	14,250	776

Sources: *External Trade Division*, Statistics Canada; and *Crop and Seasonal Price Summaries, Part II*, Agriculture Canada.

SEED EXPORTS TO OTHER COUNTRIES

Ontario exports of seed potatoes to other countries have fluctuated widely since 1972-73 (Table 16). Nearly all seed originates in the Grand Bend-Thedford area and is shipped to the United States. Sebagos are the most important variety exported and most go to Florida. Shortly after harvest they are shipped, usually on a backhaul, for planting in January and harvesting in the spring as early-crop potatoes. Recently the market for Sebagos has eroded as Florida growers are turning more and more to a new high yielding variety called Atlantic. In addition, higher freight costs have greatly increased the landed cost of Ontario seed potatoes to Florida growers.

There are usually some exports to Michigan as well. The proximity of the Grand Bend-Thedford area to Michigan encourages exports when the price is competitive. Typical varieties exported to that state include Sebago, Katahdin, Kennebec and Superior. It is doubtful if any Ontario seed potatoes are shipped to other provinces, as most other provinces have more highly developed seed testing and certification programs.

PROCESSING POTATO SECTOR

IMPORTS FROM OTHER PROVINCES

Ontario imports a number of processed products from other provinces, including frozen and dehydrated potatoes and potato chips (Table 17). In 1978-79, other provinces were supplying over 60 percent of Ontario's processed consumption. The greatest contribution was in frozen potato products where other provinces supplied about 90 percent of Ontario's consumption.

Processing facilities have expanded much faster than demand in some provinces, particularly Manitoba and the Maritimes. This

Table 17.—Imports of Processed Products from Other Provinces, 1972-73 to 1978-79

Year	Frozen	Chips	Dehydrated	Total retail	Total fresh equivalent	Processed consumption
			'000 pounds			%
1972-73	67,176	14,812	2,667	84,655	227,963	53.8
1973-74	88,075	23,865	4,389	116,329	328,826	61.5
1974-75	102,410	22,296	11,500	136,206	413,624	62.7
1975-76	110,966	..	7,695	118,661	343,385	54.9
1976-77	101,437	5,555	6,708	113,700	329,851	53.2
1977-78	140,312	..	9,035	149,347	426,446	56.8
1978-79	141,212	13,795	7,303	162,310	478,065	64.8

Source: Economics Branch, Ontario Ministry of Agriculture and Food, *Provincial Balance Sheet*.

.. = Nil.

has resulted in excess processing capacity in some sectors.[1] Intense competition among processors has created narrow profit margins as each tries to capture a greater share of the market.

Frozen and dehydrated products are supplied from Prince Edward Island, New Brunswick, and Manitoba. Growing conditions in these provinces are good and in the last few years their potato processing industries have expanded. Various regional development incentives have contributed 1- to 2-million dollars per year[2] to promote the expansion and modernization of processing facilities. Provincial programs have also provided assistance to processors.

Frozen and dehydrated products can easily be transported over long distances because they are relatively free from damage or perishibility. Ontario provides a good market because of its large population and competitive pricing. Hence the amount supplied from other provinces continues to remain large.

Potato chips are sometimes supplied from Quebec and Manitoba. Although potato chips damage easily when shipped over long distances, a certain amount is often trucked into Ontario from these provinces.

IMPORTS OF PROCESSED PRODUCTS FROM OTHER COUNTRIES

Processed products imported to Ontario from outside Canada include

[1] *The Impact of the Department of Regional Economic Expansion on the Food Industry in Western Canada*, British Columbia Legislature, Standing Committee on Agriculture, May 1978.

[2] *Monthly Reports to Parliament on Regional Development Incentives*, Department of Regional Economic Expansion, Ottawa.

Table 18.—Imports of Processed Potato Products from Other Countries, 1972-73 to 1978-79

Year	Frozen	Canned	Chips	Dehydrated	Instant mashed	Starch & flour	Total retail	Total fresh equivalent	Proc. consumption
	'000 pounds								%
1972-73	1,010	67	72	1,009	1,279	2,514	5,951	44,876	10.6
1973-74	2,775	212	242	1,055	713	3,551	8,548	55,372	10.4
1974-75	1,074	110	1,254	1,248	436	3,315	7,437	55,383	8.4
1975-76	1,214	90	2,052	880	551	4,790	9,577	73,235	11.7
1976-77	2,244	287	2,924	1,121	887	3,283	10,746	73,930	11.9
1977-78	1,030	204	3,178	1,139	652	3,816	10,019	75,485	10.1
1978-79	973	43	2,195	991	603	4,081	8,886	68,553	9.3

Sources: *External Trade Division*, import printout, Statistics Canada; and *Fresh and Processed Fruits and Vegetables*, report by Tariff Board, Ref. 152.

frozen potatoes, potato chips, canned potatoes, dehydrated potatoes, instant mashed potatoes, potato starch and potato flour (Table 18). Generally, these imports represent about 10 percent of processed potato products consumed in Ontario.

Many imported potato products consist of items that are not manufactured in Canada and frequently these products compete with Canadian products of a similar nature. An example of this is the Pringle potato chip, a reconstituted potato chip manufactured from flakes and granules. Prior to its development in 1973, little importing of potato chips from other countries occurred. After this product became available, the amount of potato chip imports from outside Canada increased substantially.

Potato starch and potato flour have limited production in Canada.[1] Virtually all the potato starch and flour consumed in Ontario comes from non-Canadian sources.

EXPORTS TO OTHER PROVINCES

Processed products exported by Ontario to other provinces include frozen and dehydrated potatoes, and potato chips (Table 19). On the average, about one-quarter of Ontario's processed potato production is exported to other provinces. This represents certain brand name products which compete for the consumer market in other provinces, mainly in Quebec and Manitoba. The export market is an important component of Ontario's processing industry. For example, more than half of Ontario's dehydrated potato products are marketed in other provinces.

[1] Although potato starch and potato flour have somewhat different uses, most import data combine these two products under the general category *Potato Starch and Flour*.

Table 19.—Exports of Processed Potato Products to Other Provinces, 1972-73 to 1978-79

	Frozen	Dehydrated	Chips	Total retail	Total Fresh equivalent	Proc. production
			'000 pounds			%
1972-73	3,192	2,089	5,392	10,673	47,629	23.7
1973-74	4,990	3,141	5,574	13,705	62,231	29.1
1974-75	2,680	3,969	6,324	12,973	66,834	25.9
1975-76	2,766	2,614	6,835	12,215	57,178	21.2
1976-77	5,171	1,947	6,225	13,343	54,745	19.8
1977-78	8,043	2,715	7,325	18,083	73,031	22.5
1978-79	9,391	2,038	8,633	20,062	75,944	27.9

Source: Survey of Ontario potato processors.

TABLESTOCK SECTOR

EXPORTS TO OTHER COUNTRIES

Processed product exports to other countries are not a large component of the Ontario industry (Table 20). About 1.5 percent — fresh equivalent basis — of Ontario processed products is exported outside Canada, primarily to the United States, the United Kingdom, and Carribean countries.

IMPORTS OF TABLESTOCK
POTATOES FROM OTHER PROVINCES

Tablestock potato shipments to Ontario from other provinces account for about one-quarter of Ontario's tablestock consumption on a province-wide basis. The unload figures from Agriculture Canada however, reveal a higher level of imports into Toronto and Ottawa (Table 21).[1]

Prince Edward Island is the leading tablestock shipper into Ontario. Most shipments come by rail. Prince Edward Island potatoes are noted in Ontario for their uniform size and good quality and they generally command a premium price in the Ontario market. Ontario has been a steady customer for Prince Edward Island's crop. Many Ontario consumers are willing to pay more for Prince Edward Island potatoes, because they feel the Prince Edward Island crop is superior to Ontario potatoes. Sizeable shipments of Prince Edward Island potatoes begin in October and continue throughout the winter into the early spring.

New Brunswick is the second largest Canadian shipper of tablestock potatoes to Ontario. Most of them arrive by rail or truck into the Ottawa market or by rail into the Toronto markets. In Ottawa, New Brunswick potatoes face severe competition from Prince Edward Island and

[1] *Annual Unload Report: Fresh Fruit and Vegetables*, Agriculture Canada.

Table 20.—Exports of Processed Potato Products to Other Countries, 1972-73 to 1978-79

Year	Canned	Frozen	Total retail	Total fresh equivalent	Proc. production
		'000 pounds			%
1972-73	3	808	811	2,026	1.0
1973-74	2	358	360	897	0.4
1974-75	3	346	349	870	0.3
1975-76	32	1,345	1,377	3,414	1.3
1976-77	500	1,689	2,189	5,007	1.8
1977-78	..	1,252	1,252	3,132	1.0
1978-79	..	1,895	1,895	4,739	1.7

Source: *External Trade Division*, export printout. Statistics Canada.

.. = Nil.

Ontario supplies. In recent years, New Brunswick potato shipments to Ontario have declined. Faced with numerous problems from rail shipment, growers have tended to haul more by truck to nearby markets, such as to New Brunswick and Quebec processors.

Quebec is the third largest shipper of tablestock potatoes into Ontario. The proximity of some Quebec potato regions to northeastern Ontario results in convenient truck shipments of tablestock potatoes into the Ottawa market and nearby areas.

Manitoba red potatoes are also commonly used in certain regions in Ontario. While this potato is generally graded as Canada No. 2 because of its size, its overall quality as a tablestock potato is considered quite good and comparable to that of Canada No. 1. Manitoba potatoes are generally marketed through large independent wholesalers located in Winnipeg who have agreed to supply certain retail food stores in northern Ontario with potatoes.

The most extensive use of Manitoba potatoes is in northwestern Ontario. The districts of Kenora and Rainy River are generally supplied from Manitoba. Their proximity to potato producing regions in Manitoba makes this source the most convenient and generally the least expensive for them. Manitoba potatoes generally supply this region from August to April.

The District of Thunder Bay is also heavily supplied by Manitoba. This is a very competitive area of Ontario because United States and maritime producers also compete in this market. Some Manitoba potatoes also generally move into the districts of Algoma and Cochrane during the marketing season. The Manitoba shipments represent only a small portion of the total shipments into these markets, and all are generally supplied by one wholesaler.

Occasionally, Manitoba potatoes come into the Toronto and Ottawa

Table 21.—Imports of Tablestock Potatoes from Other Provinces to Ontario, 1972-73 to 1978-79

Year	P.E.I.[a]	N.B.[a]	Que.	Man.[a]	Alta.	Total	Consumption
			'000 pounds				%
1972-73	170,840	30,610	7,363	7,852	2,834	219,499	32.1
1973-74	189,482	20,724	6,524	9,817	866	227,413	34.0
1974-75	211,430	49,820	7,133	8,160	553	277,096	42.2
1975-76	136,558	20,799	7,999	13,721	603	179,680	28.4
1976-77	107,745	13,816	9,810	10,747	614	142,732	18.5
1977-78	171,970	8,545	10,846	8,588	234	200,183	25.6
1978-79	170,334	12,542	10,211	8,550	40	201,677	28.9

[a]10 percent shrinkage applied to P.E.I., N.B., and Manitoba.

Sources: *Annual Unload Report, Fresh Fruit and Vegetables,* Agriculture Canada; *Weekly Potato Summary,* Ontario Ministry of Agriculture and Food; and *P.E.I. Potato Growers' Marketing Board.*

markets. However, as a rule these markets are too distant for Manitoba potatoes to be competitive with potatoes from other sources. Sometimes Alberta baking potatoes come into the Toronto and Ottawa markets, but the quantity is not large compared with supplies from other provinces.

IMPORTS OF TABLESTOCK POTATOES FROM THE UNITED STATES

Ontario tablestock potato imports from outside Canada average about 10 percent of Ontario's tablestock consumption (Table 22). Tablestock imports occur duing two peak periods — spring and early summer. At these times Canadian potato supplies begin to show signs of aging and other quality defects. Many consumers, therefore, prefer to pay a higher price to obtain new-crop potatoes which are available from the United States.

Potato imports from other countries are distributed during the year as follows.

1. March, April, and May ..... Red potatoes from Florida.
2. May, June, and July ..... Long white potatoes from California.
3. June and July ..... Potatoes from North Carolina, Virginia, and Maryland.
4. October, November, December, and January ..... Potatoes for baking and specialty markets from Wisconsin, Washington, Oregon, Idaho, and Northern California.

More than two-thirds of the tablestock imports occur during June and July. At this time California new-crop supplies are abundant, while Canadian old-crop supplies are practically finished. Some early-crop Ontario supplies are heaviest in July, but in small quantities and the

Table 22.—Tablestock Potatoes, Imports from and Exports to Other Countries, 1972-73 to 1978-79

Year	Imports[ab]		Exports	
	Total	Production	Total	Production
	'000 lbs.	%	'000 lbs.	%
1972-73	53,962	7.9	3,983	0.9
1973-74	53,340	8.0	9,127	2.1
1974-75	63,480	9.7	18,875	4.1
1975-76	79,823	12.6	6,766	1.6
1976-77	114,667	14.8	17,158	3.0
1977-78	72,664	9.3	9,936	1.8
1978-79	84,934	12.2	3,499	0.8

[a] 10 percent shrinkage applied to imports.

[b] For some years, import figures also include some purchases for processing into potato chips. No figures are available on these amounts; however, trade sources have indicated that a small quantity from the United States is sometimes purchased for processing during the summer before any Ontario supplies are available.

Sources: *External Trade Division*, Statistics Canada; and *Fruit, Vegetable, and Honey Crop and Market Report*, Agriculture Canada.

stores depend mainly on new-crop supplies from the United States. The freight costs for new-crop United States supplies are high, and new-crop potato prices are usually much higher than the prices of old-crop supplies. Beginning in July however, foreign supplies are gradually replaced by new Ontario potatoes.

Small quantities of potatoes are imported during the fall and winter. These are mostly high quality potatoes of uniform size for use as baking potatoes. They are used by restaurants and institutions or are wrapped in foil for sale in retail stores. They command a premium price on the market.

TABLESTOCK EXPORTS TO OTHER PROVINCES

Ontario potato shipments to other provinces represent about 50-10 percent of Ontario's tablestock production (Table 23). The size of the shipments varies substantially from year to year. Quebec is the largest user and accounts for over 90 percent of Ontario's potato shipments. Most of the shipments to Quebec occur during July, August, and September. These are generally early potato supplies shipped to Quebec before Maritime supplies become available. Some potatoes are also sold for processing throughout the fall and winter. Quebec is the only major potato producing province to buy more potatoes from Ontario than it ships to Ontario.

Table 23.—Tablestock Potato Exports from Ontario to Other Provinces, 1972-73 to 1978-79

Year	Que.	NS	NB	Nfld.	PEI	Man.	BC	Total	Production
				'000 pounds					%
1972-73	14,612	500	247	1,894	..	186	..	17,439	4.0
1973-74	35,361	409	126	2,769	..	242	..	38,907	8.9
1974-75	72,856	196	30	1,384	..	278	41	74,785	16.3
1975-76	29,742	741	519	1,355	24	109	..	32,490	7.9
1976-77	32,337	296	..	932	..	..	..	33,565	5.9
1977-78	18,880	1,621	..	..	56	49	..	20,606	3.8
1978-79	4,429	65	..	..	..	..	..	4,494	1.1

Source: *Fruit and Vegetables Division,* Agriculture Canada, Hamilton, Ontario.

.. = Nil.

EXPORTS OF TABLESTOCK POTATOES TO OTHER COUNTRIES

Ontario tablestock potato exports to other countries are given in Table 22. For most years, nearly all tablestock exports are to Michigan, New York, and Pennsylvania. In general, about 1-2 percent of the Ontario tablestock marketed is exported to other countries.

Sometimes a few loads of potatoes will be shipped across the border to a potato processor in the United States. This does not happen on any consistent basis, but processors are sometimes looking for additional potato supplies and will buy Ontario potatoes. In most instances however, Ontario tablestock exports supply markets in nearby points in the United States for fresh use.

CHAPTER V
DISTRIBUTION AND SUMMARY OF MARKETINGS

THE MARKET DISTRIBUTION SYSTEM

The marketing process for potatoes in Ontario is comprised of a number of basic market functions. Figure 1 provides an outline of the distribution system within Ontario. Most of the functions indicated are conducted by one or more individuals in the marketing system.

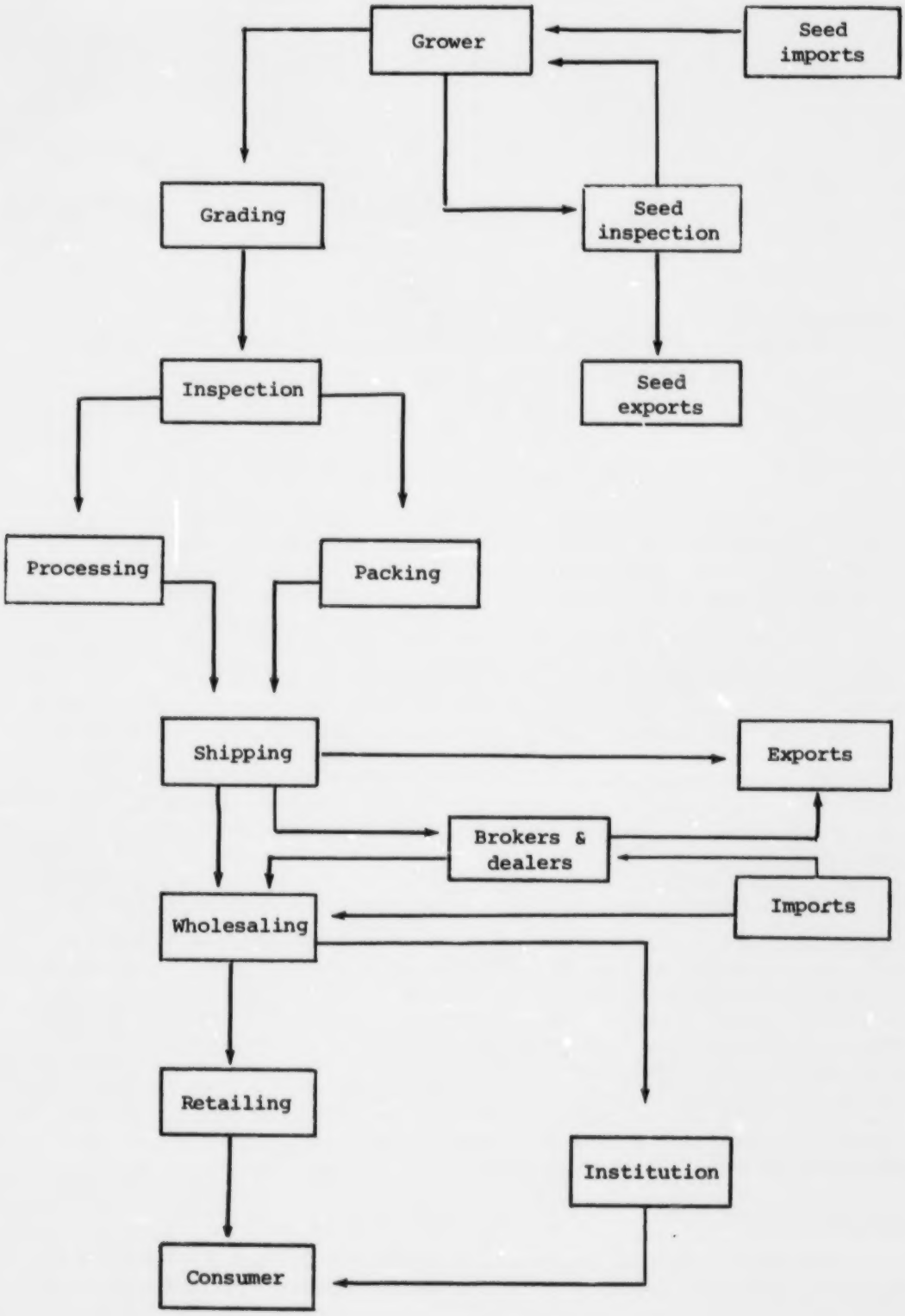
The seed sector originates with imports of Elite I, or pre-Elite from seed farms in Prince Edward Island or Quebec. Ontario seed growers raise this seed under the Elite seed program coordinated by the Ontario Ministry of Agriculture and Food (OMAF). All seed produced is field inspected by Agriculture Canada inspectors. Elite I, II, and III seed potatoes are grown under isolated conditions and are carefully inspected. When the seed reaches the Elite III generation, it may be sold to Foundation seed growers in commercial potato-growing regions for mass seed production. Foundation and Certified seed are also subject to inspection but under less stringent regulations than the earlier generations. Upon reaching Foundation or Certified Class, the seed potatoes are either sold to commercial growers in Ontario or exported.

Commercial potato growers purchase seed potatoes from growers in Ontario, the Maritimes, or the United States and use their land, labor, capital, and management skills to grow potatoes for the tablestock and processed potato markets. This operation requires specialized equipment, additional hired labor, and skillful management. Some growers sell their crop immediately after harvest while others store all or part of it for future sale. Storage facilities are generally specialized buildings with insulated walls and ceilings and a concrete or wooden floor. Within the buildings, ventilation fans and heaters keep the temperature of the stored potatoes at a suitable level.

GRADING

Grading is required to obtain a marketable product because not all potatoes harvested from the field are of marketable size and condition.

Figure 1.—Market Functions of the Potato Industry in Ontario



This procedure requires special grading grates to sort potatoes into different sizes, while additional labor is needed to pick out damaged potatoes, stones and other foreign material. The grading may be carried out at harvest, at loading or unloading for storage, or at the time of delivery for processing or packing.

INSPECTION

The crop is inspected after grading to certify that the marketable product meets a given set of quality standards. Provincial inspectors perform this task for Ontario products that are consumed in Ontario. If the product is to be exported it is inspected by federal inspectors. Tablestock potatoes must comply with standards established under the *Farm Products Grades and Sales Act* (Canada Agriculture Products Act for imports or exports), while processing potatoes have to comply with standards set by individual processors. Processing standards are established by written agreement between the processor and the grower members of the OPGMB. The certification of these standards is conducted by provincial inspectors, usually at the processor's terminal at harvest time.

PROCESSING

Processing involves the manufacturing of potato products from raw potatoes. Processors provide a variety of easily prepared foods for consumer use. Processors usually purchase bulk loads of raw potatoes from growers or, in some cases from dealers. Processors sometimes undertake the wholesaling of their finished products to retailers and in advertising their products.

PACKING

Packing is the process of putting bulk, tablestock potatoes into retail sized packages. This operation is carried out by individual growers, by cooperatives organized by growers, or by operators called packers, who either purchase potatoes or offer a packing service to local growers. Packers sometimes import potatoes in 75-pound bags or other large containers and repack them into smaller-sized packages.

SHIPPING

Shipping is required to transfer the potatoes or processed products from the growers and processors to the point of final sale. This function may be performed by a number of people in the marketing chain — growers, processors, packers, wholesalers, or dealers. There are specialized shippers, such as railways, long distance truckers, and short distance truckers, who provide this service to growers and processors. In addition, some truckers act as middlemen, purchasing supplies from growers or packers and selling them to wholesalers, retailers, or institutions.

WHOLESALING

The grower, processor, and packer are all interested in marketing a large volume of specialized products. Conversely, institutional buyers, large retailers, and others who sell to consumers are interested in small

quantities of a variety of products. A middleman, or wholesaler, is therefore needed to satisfy the different objectives of both groups.

The wholesaler purchases large amounts of specialized products from the growers, processors, or packers, and offers these products in smaller units to large numbers of institutions or retailers. The wholesaling operation also entails purchasing large quantities of a variety of products from many different suppliers in order to offer customers a range of products. For example, a wholesaler may purchase several truckloads of bagged potatoes and other vegetables, such as carrots, onions, and lettuce. Wholesalers usually have large warehouses and may perform additional functions such as packaging, inspecting, transporting, and financing. All of these functions help contribute to a more efficient marketing system.

Independent wholesalers. The wholesaling function is conducted as a separate system. Wholesalers are independent and purchase from large suppliers and usually sell a line of products to retailers and the institutional trade. Services such as packaging, transporting, handling, storing, and financing are sometimes provided. In the Toronto area many have office or warehouse space located at the Ontario Food Terminal. Some wholesalers specialize in handling large-size containers for the institutional trade, deal in special foods, or cater to particular groups of buyers.

Integrated wholesale-retail operations. An integrated operation combines the functions of the wholesaler and the retailer. The two predominant types of integrated operations are corporate chain stores such as Dominion, Loblaws, and Miracle Mart, and the voluntary chain affiliate stores such as the National Grocers Co. Ltd., and the Independent Grocers' Alliance (IGA).

Corporate chain stores are large-scale food companies managed as a single operation. Their bargaining power with processors, growers, and other food suppliers is substantial because of their large size. Their size allows for efficiencies in handling products, advertising, and pricing. A corporate chain may also specialize some operations, standardize store layouts, and be involved in numerous food processing operations. They may even have their own labels and standards.

A voluntary chain consists of independently owned retailing operations united under agreement with a wholesaler to achieve the advantages of a large-scale operation. They gain bargaining power through volume purchases, while services such as advertising, store design, and pricing are available to all member stores. Hence they achieve many of the advantages of chain store companies, but the facilities remain independently owned.

Brokers and dealers. In some cases, brokers and dealers are employed in the marketing operation. They perform a special type of wholesaling function. Brokers arrange transactions on a commission basis between buyers and sellers. Frequently brokers are involved in the acquisition of imported tablestock. They also often act as agents for large chain store buyers. Dealers are generally middlemen who purchase from local growers, packers, or processors, and sell to retailers, large wholesalers, or institutions. They often provide transportation and other services such as packing and storage.

RETAILING

Retailing is the process of selling the product to the final consumer. Retailers purchase a stock of goods from one or more wholesalers. They stock their shelves with numerous items that consumers are interested in purchasing. They perform many operations such as packaging, displaying produce in an appealing fashion, and maintaining perishable products. Fresh vegetables, for example, are kept clean, stored at the proper temperature, and culled regularly to discard unsalable product. Retailers also carry out promotional programs, advertise various products and offer specials.

The bulk of retail sales occur from the large, integrated wholesale-retail operations mentioned above. The independent retail stores are also important, however. Independent retailers are usually small, single-owner neighbourhood stores. These stores are numerous, but the volume handled by them is small compared with that of the chain stores. Independent stores rely upon wholesalers for most of their supplies. These stores sometimes provide services not offered by the large chain stores such as longer hours of operation, remaining open on holidays, home delivery, and customer credit.

SUMMARY OF MARKETINGS

Ontario's potato production is less than its consumption, therefore imports supply the deficit. Not all of Ontario's production is marketed locally as sometimes better markets are available outside the Province. The Ontario potato market is a very competitive one and is markedly affected by production levels and prices in nearby regions. Because production in Ontario and other regions varies from year to year, the distribution system often adjusts to changes in regional production levels.

A summary of production, consumption, and trade for the period 1972-73 to 1978-79 is shown in Tables 24 to 27. These tables combine information from the previous chapters in order to provide a means of evaluating each sector in the potato industry.[1] The relative share that each sector makes up of the total industry for production, consumption, imports, and exports is detailed in Tables 28 to 31. These tables provide an analysis over the same time period as Tables 24 to 27, and include the average share for the last five years.

SEED SECTOR

Supplies of Ontario seed were exceptionally large in 1975-76 and 1976-77 (Table 24). Greater seed requirements in these two years caused commercial growers to save a higher portion of their production for seed use. In general, during the period analyzed in Table 24 there was a decline in Ontario seed production and a rise in seed imports. Exports were much lower in 1978-79 and currently appear to represent about 1-2 percent of the total seed production. Excluding the two years of large supply, it appears that Ontario production as a percent of total use has declined.

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[1]Sources for the summary Tables 24 to 31 are provided in the production, consumption, and trade tables of Chapters II to IV.

Table 24.—Ontario Seed Sector — Production, Consumption, and Trade, 1972-73 to 1978-79

Year	(1) Production	(2) Exports	(3) Net production (1-2)	(4) Imports	(5) Usage (3+4)	% production		% usage		Production as % usage (1 ÷ 5)
						Exported (2 ÷ 1)	Used locally (3 ÷ 1)	Imported (4 ÷ 5)	Supplied locally (3 ÷ 5)	
	'000 pounds					percent				
1972-73	50,548	2,787	47,761	31,659	79,420	5.5	94.5	39.9	60.1	63.6
1973-74	48,683	3,527	45,156	41,674	86,830	7.2	92.8	48.0	52.0	56.1
1974-75	43,675	2,287	41,388	42,592	83,980	5.2	94.8	54.3	45.7	52.0
1975-76	64,875	4,977	59,898	31,872	91,770	7.7	92.3	34.7	65.3	70.7
1976-77	62,059	3,704	58,355	33,035	91,390	6.0	94.0	36.1	63.9	67.9
1977-78	43,131	2,648	40,483	43,877	84,360	6.1	93.9	40.4	59.6	51.1
1978-79	42,618	776	41,842	43,658	85,500	1.8	98.2	51.1	48.9	49.8

Table 25.—Ontario Processing Sector — Production, Consumption, and Trade (Fresh Equivaler . Basis), 1972-73 to 1978-79

Year	(1) Production	(2) Exports	(3) Net production (1-2)	(4) Imports	(5) Consumption (3+4)	% production		% consumption		Production as % consumption (1 ÷ 5)
						Exported (2 ÷ 1)	Used locally (3 ÷ 1)	Imported (4 ÷ 5)	Supplied locally (3 ÷ 5)	
	'000 pounds					percent				
1972-73	200,734	49,655	151,079	272,839	423,918	24.7	75.3	64.4	35.6	47.4
1973-74	213,856	63,128	150,728	384,198	534,926	29.5	70.5	71.8	28.2	40.0
1974-75	258,253	67,704	190,549	469,007	659,556	26.2	73.8	71.1	28.9	39.2
1975-76	270,000	60,592	209,408	416,620	626,028	22.4	77.6	66.5	33.5	43.1
1976-77	275,962	59,752	216,210	403,781	619,991	21.7	78.3	65.1	34.9	44.5
1977-78	324,587	76,163	248,424	501,931	750,355	23.5	76.5	66.9	33.1	43.3
1978-79	272,349	80,683	191,666	546,618	738,284	29.6	70.4	74.0	26.0	36.9

Table 26.—Ontario Tablestock Sector — Production, Consumption, and Trade, 1972-73 to 1978-79

Year	(1) Production	(2) Exports	(3) Other[a]	(4) Net production (1-2-3)	(5) Imports	(6) Consumption (4+5)	% produc. Exported (2÷1)	% produc. Local use (3+4)	% consump. Imported (5÷6)	% consump. Local supply (4÷6)	Production as % consumption (1÷6)
	'000 pounds						percent				
1972-73	432,651	21,422	..	411,229	273,461	684,690	5.0	95.0	39.9	60.1	63.2
1973-74	436,199	48,034	..	388,165	280,753	668,918	11.0	89.0	42.0	58.0	65.2
1974-75	459,272	93,660	48,963	316,649	340,576	657,225	20.4	79.6	51.8	48.2	69.9
1975-76	412,929	39,256	..	373,673	259,503	633,176	9.5	90.5	41.0	59.0	65.2
1976-77	566,950	50,723	..	516,227	257,399	773,626	8.9	91.1	33.0	67.0	73.3
1977-78	538,929	30,542	..	508,387	272,847	781,234	5.7	94.3	34.9	65.1	69.0
1978-79	419,039	7,993	..	411,046	286,611	697,657	1.9	98.1	41.1	58.9	60.1

[a]Diverted to livestock feed.

.. = Nil.

Table 27.—Total All Sectors — Production, Consumption, and Trade, 1972-73 to 1978-79

Year	(1) Production	(2) Exports	(3) Other[a]	(4) Net production (1-2-3)	(5) Imports	(6) Consumption (4+5)	% produc. Exported (2÷1)	% produc. Local use (3+4)	% consump. Imported (5÷6)	% consump. Local supply (4÷6)	Production as % consumption (1÷6)
	'000 pounds						percent				
1972-73	683,933	73,864	..	610,069	577,959	1,188,028	10.8	89.2	48.6	51.4	57.6
1973-74	698,738	114,689	..	584,049	706,625	1,290,674	16.4	83.6	54.7	45.3	54.1
1974-75	761,200	163,651	48,963	548,586	852,175	1,400,761	21.5	78.5	60.8	39.2	54.3
1975-76	747,804	104,825	..	642,979	707,995	1,350,974	14.0	86.0	52.4	47.6	55.4
1976-77	904,971	114,179	..	790,792	694,215	1,485,007	12.6	87.4	46.7	53.3	60.9
1977-78	906,647	109,353	..	797,294	818,655	1,615,949	12.1	87.9	50.7	49.3	56.1
1978-79	734,006	89,452	..	644,554	876,887	1,521,441	12.2	87.8	57.6	42.4	48.2

[a]Diverted to Livestock feed.

.. = Nil.

Table 28.—Utilization of Ontario Production by Sector, 1972-73 to 1978-79

Year	Seed		Processing[a]		Tablestock[b]		Total	
	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%
1972-73	50,548	7.4	200,734	29.3	432,651	63.3	683,933	100.0
1973-74	48,683	7.0	213,856	30.6	436,199	62.4	698,738	100.0
1974-75	43,675	5.7	258,253	33.9	459,272	60.4	761,200	100.0
1975-76	64,875	8.7	270,000	36.1	412,929	55.2	747,804	100.0
1976-77	62,059	6.9	275,962	30.5	566,950	62.6	904,971	100.0
1977-78	43,131	4.8	324,587	35.8	538,929	59.4	906,647	100.0
1978-79	42,618	5.8	272,349	37.1	419,039	57.1	734,006	100.0
5-yr. av. 1974-75 to 1978-79	51,424	6.3	280,230	34.6	479,272	59.1	810,926	100.0

[a] Fresh equivalent basis.

[b] 1974-75 tablestock production includes 48,963,000 pounds produced and graded as tablestock but diverted to livestock feed under the *Agricultural Stabilization Board* diversion program.

The seed sector represents the smallest component of the Ontario potato industry. In the last five years, seed production accounted for 6 percent of total production from all sectors. During this period seed utilization was about 6 percent of total potato use. Seed imports represented 5 percent of total imports, while seed exports represented just over 2 percent of total exports (Tables 28 to 31).

PROCESSING SECTOR

The processing sector was characterized by considerable expansion during the time period examined. Ontario production for processing has continued to grow each year except for 1978-79 when production returned to a level similar to that of 1975-76 (Table 25). Exports and imports have both risen in most years. Consumption has generally gone up, as the demand appears to have increased in most years. About 25 percent of Ontario's processed products are exported, but 65-70 percent of the processed products consumed in Ontario are from imported products. Production as a percent of consumption is about 40 percent.

In the last five years Ontario's average production for the processing sector was 280 million pounds. This is 35 percent of the total production for all sectors and 34 percent of the marketed production, as reported in Chapter II, Table 7.[1] In this period, the consumption of processed products averaged 679 million pounds, or 46 percent of the total use.

[1] The first percentage figure excludes waste, and represents production to final consumers, while the second percentage figure represents the amount of production at the wholesale level, and is based on the more commonly published production amount.

Table 29.—Ontario Consumption by Sector, 1972-73 to 1978-79

Year	Seed		Processing[a]		Tablestock		Total	
	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%
1972-73	79,420	6.7	423,918	35.7	684,690	57.6	1,188,028	100.0
1973-74	86,830	6.7	534,926	41.5	668,918	51.8	1,290,674	100.0
1974-75	83,980	6.0	659,556	47.1	657,225	46.9	1,400,761	100.0
1975-76	91,770	6.8	626,028	46.4	633,176	46.8	1,350,974	100.0
1976-77	91,390	6.2	619,991	41.7	773,626	52.1	1,485,007	100.0
1977-78	84,360	5.2	750,355	46.4	781,234	48.4	1,615,949	100.0
1978-79	85,500	5.6	738,284	48.5	697,657	45.9	1,521,441	100.0
5-yr. av. 1974-75 to 1978-79 ...	87,552	6.0	678,843	46.0	708,432	48.0	1,474,827	100.0

[a]Fresh equivalent basis.

Processed products accounted for most of the trade in the last five years. Fresh equivalent imports averaged 468 million pounds (59 percent of total imports), while exports averaged 69 million pounds (59 percent of the total exports) (Tables 28 to 31).

TABLESTOCK SECTOR

During the seven-year period analyzed the Ontario tablestock sector did not show any apparent trend in production, consumption, or imports. Tablestock exports dropped off slightly from the previously high levels in the mid-seventies.

The Ontario tablestock sector encountered two years of high production in 1976 and 1977; however, with the exception of these two high producing years, tablestock production has not changed much in the period analyzed (Table 26). Tablestock exports have generally fluctuated from year to year. Exports dropped off sharply in 1978-79. Imports of tablestock have remained steady except for 1974-75, when Maritime shipments were exceptionally high.

The percentage of production exported varies considerably from year to year; however, recent years indicate a decline in tablestock exports. On the average, about 40 percent of tablestock consumed is imported and about 60 percent comes from Ontario sources. Production as a percent of consumption is about 65-70 percent.

In the period from 1974-75 to 1978-79 tablestock production averaged 479 million pounds, 59 percent of the production from all sectors and 57 percent of the marketed production (Table 7 in Chapter II).[1] While most of Ontario's production continues to be used as tablestock, this portion has generally been declining (Table 28).

[1]Excluding the amount diverted to livestock in 1974-75, the five-year average tablestock production was 469 million pounds.

Table 30.—Ontario Imports by Sector, 1972-73 to 1978-79

Year	Seed		Processing[a]		Tablestock		Total	
	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%
1972-73	31,659	5.5	272,839	47.2	273,461	47.3	577,959	100.0
1973-74	41,674	5.9	384,198	54.4	280,753	39.7	706,625	100.0
1974-75	42,592	5.0	469,007	55.0	340,576	40.0	852,175	100.0
1975-76	31,872	4.5	416,620	58.8	259,503	36.7	707,995	100.0
1976-77	33,035	4.7	403,781	58.2	257,399	37.1	694,215	100.0
1977-78	43,877	5.4	501,931	61.3	272,847	33.3	818,655	100.0
1978-79	43,658	5.0	546,618	62.3	286,611	32.7	876,887	100.0
5-yr. av. 1974-75 to 1978-79	38,807	4.9	467,591	59.2	283,387	35.9	789,785	100.0

[a]Fresh equivalent basis.

Table 31.—Ontario Exports by Sector, 1972-73 to 1978-79

Year	Seed		Processing[a]		Tablestock		Total	
	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%	'000 lbs.	%
1972-73	2,787	3.8	49,655	67.2	21,422	29.0	73,864	100.0
1973-74	3,527	3.1	63,128	55.0	48,034	41.9	114,689	100.0
1974-75	2,287	1.4	67,704	41.4	93,660	57.2	163,651	100.0
1975-76	4,977	4.7	60,592	57.8	39,256	37.5	104,825	100.0
1976-77	3,704	3.3	59,752	52.3	50,723	44.4	114,179	100.0
1977-78	2,648	2.4	76,163	69.7	30,542	27.9	109,353	100.0
1978-79	776	0.9	80,683	90.2	7,993	8.9	89,452	100.0
5-yr. av. 1974-75 to 1978-79	2,878	2.5	68,979	59.3	44,435	38.2	116,292	100.0

[a]Fresh equivalent basis.

During this period tablestock consumption averaged 708 million pounds, 48 percent of the total potato consumption. Consumption was largest during 1976-77 and 1977-78, when Ontario's production was at its peak. In general, during the seven-year period no change in the level of tablestock consumption was discernible. Tablestock consumption, as a share of total potato consumption, has generally declined. While the consumption of processed products grew considerably in this period, tablestock consumption experienced a sizable yearly fluctuation, but did not show any apparent trend (Table 29).

Tablestock imports in the last five years averaged 283 million pounds, 36 percent of the total imports. Except for 1974-75, the tablestock imports have remained stable each year. The tablestock sector continued to account for a declining portion of total imports (Table 30).

Tablestock exports averaged 44 million pounds in the last five years, 38 percent of the total exports. They have fluctuated considerably during the seven-year period studied, and have shown a substantial decline in the most recent years. The share of total exports from the tablestock sector has also declined (Table 31).

CHAPTER VI
ECONOMIC FACTORS AND ISSUES

Chapters I to V have provided an historical picture of the production, consumption, trade, and marketing aspects of the Ontario potato industry during the 1970's. It is also necessary to examine some of the factors that may influence the effectiveness of the marketing system. This chapter presents several of these factors that are important in an analysis of potato marketing.

SEASONALITY OF IMPORTED UNLOADS

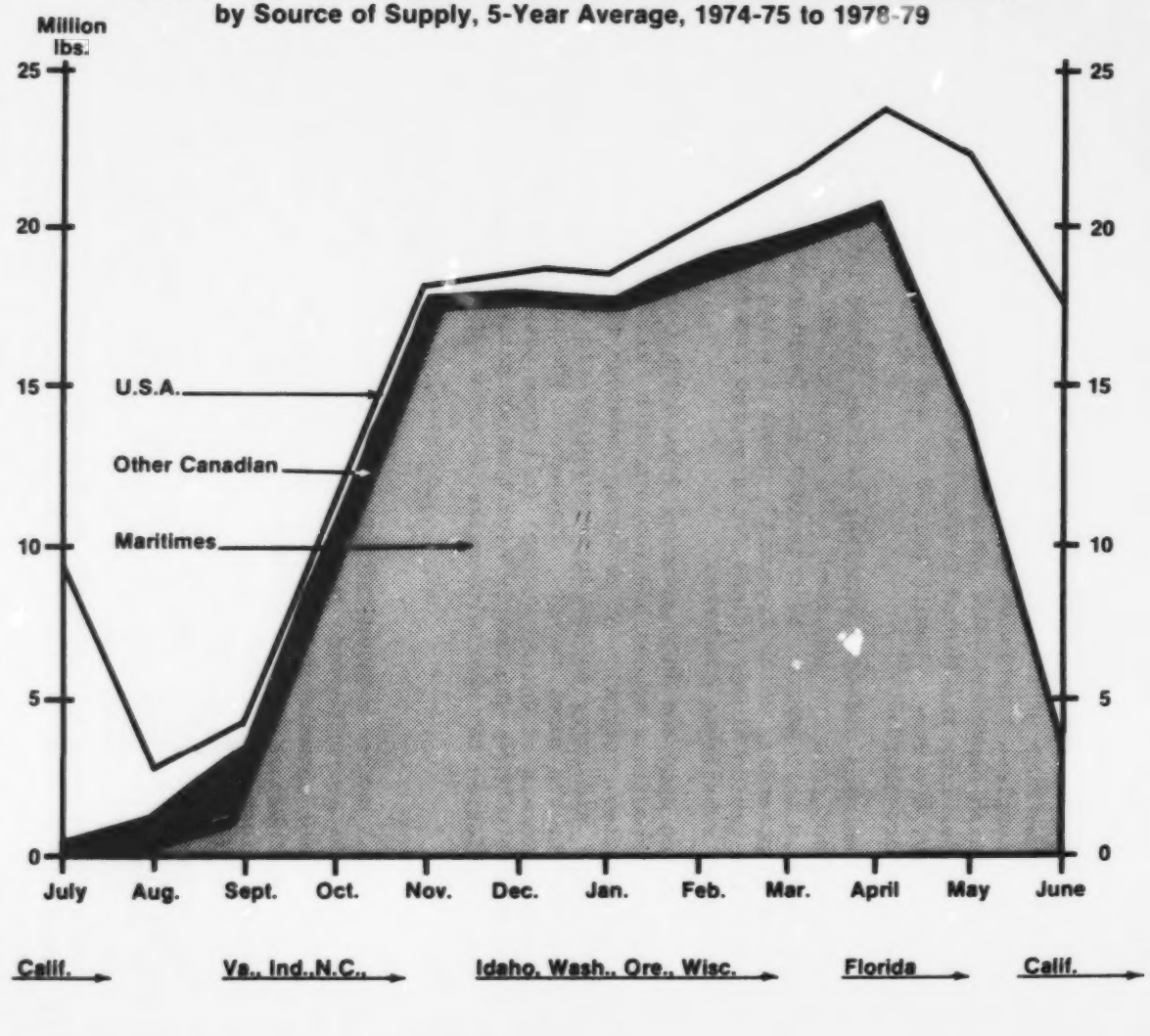
There are wide variations throughout the year in imports into Toronto and Ottawa (Figure 2). The chart in Figure 2 displays the average monthly imported unloads into Toronto and Ottawa for the five-year period from 1974-75 to 1978-79. Imports are reported as shipments from the Maritimes, other Canada, and the United States.

This chart emphasizes the seasonal pattern of imported supplies into Toronto and Ottawa markets. These two markets were selected because information was available for them. Although detailed information does not exist for other Ontario markets, it is expected that the seasonal pattern of imported supplies would be similar.

MARITIMES

Maritime unloads into Toronto and Ottawa begin to reach sizable amounts in October and remain steady throughout the fall and early winter. These shipments increase somewhat in late winter and early spring, reaching a peak in March or April. In late spring, Maritime unloads begin to decline in volume as problems connected with aging become more frequent for old-crop supplies not sold by this time.

Figure 2 — Unloads of Imported Tablestock Potatoes at Toronto and Ottawa by Source of Supply, 5-Year Average, 1974-75 to 1978-79



OTHER CANADA

The unloads from other Canadian provinces are mainly represented by shipments of Quebec potatoes into the Ottawa market. These occur during late summer and early fall as Quebec potato growers, located near the Ottawa-Hull region, truck into this market. Some limited marketing from storage stock also continues during the remainder of the season.

UNITED STATES

Because much of the United States has an earlier growing season, new-crop supplies from below the border are available earlier than new-crop Canadian supplies. New potatoes from Florida appear about March, and supplies from the United States continue to expand in volume during April, May, and June. During May, June and July, California new-crop supplies are abundant.

As Canadian old-crop supplies decline during late spring, more U.S. new-crop potatoes are imported. The consumption of potatoes usually declines in this period, as consumers are faced with purchasing old-crop Canadian potatoes, which frequently exhibit aging problems. The alternates are paying higher prices for new-crop imported potatoes, or selecting substitute products.

During June and July potatoes from North Carolina, Virginia, and Maryland sometimes appear and compete with California and Ontario new-crop supplies. Supplies of new-crop potatoes from the United States decline in midsummer as the increasing Ontario production begins to compete for the local market. Throughout the remainder of the year, limited amounts of United States' fall-crop potatoes come into Toronto and Ottawa. These are mainly high quality potatoes, such as bakers and other varieties for specialty markets.

TRANSPORTATION COST OF IMPORTS

A large segment of Ontario's potato supplies come from imports, hence an increase in transportation costs can have considerable impact on potato prices in Ontario. The average truck and rail rates for imported potatoes from 1972 to 1980 are shown in Table 32. Freight costs have continued to rise over the period analyzed. The increase has been particularly noticeable over the last three to four years. Rate increases can be observed for both modes of transport, although rail rates appear to have increased faster than truck rates. To find out if transportation costs are related to wholesale prices, both have been graphed (Figures 3 and 4). The average freight costs for shipping from Prince Edward Island have tripled during the years 1972-80 (Table 32). While the wholesale price has fluctuated greatly, it has not shown any definite trend to increase.[1] Roughly estimated, out of a $7.50 per hundredweight wholesale price, the transportation costs averaged $1.50 per hundredweight. The transportation cost figures in Table 32 represent the amount paid by

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[1]Wholesale prices for Prince Edward Island potatoes were considerably higher in 1980. In the eight years previous to 1980 there was no increasing price trend, and the higher 1980 price has not provided sufficient evidence for any change in this price pattern.

Table 32.—Average Transport Costs to Toronto for Imported Tablestock Potatoes, 1972-1980

	Prince Edward Island		California	Washington	Florida	North Carolina
	Rail[ae]	Truck[b]	Rail[cd]	Rail[d]	Truck[b]	Truck[bc]
	dollars per hundredweight					
1972	0.71	1.19	2.57	2.50	2.15	1.65
1973	0.76	1.19	2.81	2.61	2.37	1.82
1974	0.84	1.19	3.16	3.14	2.61	2.20
1975	0.99	1.20	3.91	3.68	2.61	2.20
1976	1.10	1.29	4.50	4.17	2.61	2.20
1977	1.27	1.49	4.68	4.65	3.60	2.58
1978	1.43	1.68	5.19	5.43	3.60	2.58
1979	1.84	1.73	6.07	6.36	4.00	2.75
1980	2.20	1.87	7.12	6.79	4.40	3.30

[a] 55,000 pound minimum.

[b] 45,000 pound minimum.

[c] Includes refrigeration.

[d] 85,000 pound minimum.

[e] Subsidy payments under *Atlantic Region Freight Assistance Act* deducted from tariff rate.

Sources: *Freight Marketing Office*, CN Rail; and *Canada Household Goods Carriers Tariff Bureau Association*.

wholesalers to shippers for transporting potatoes from Prince Edward Island to Toronto. These costs are only about three-quarters of the actual monies received by the shippers. Additional payments are made to them under two programs — the *Maritimes Freight Rates Act*, and the *Atlantic Region Freight Assistance Act*.

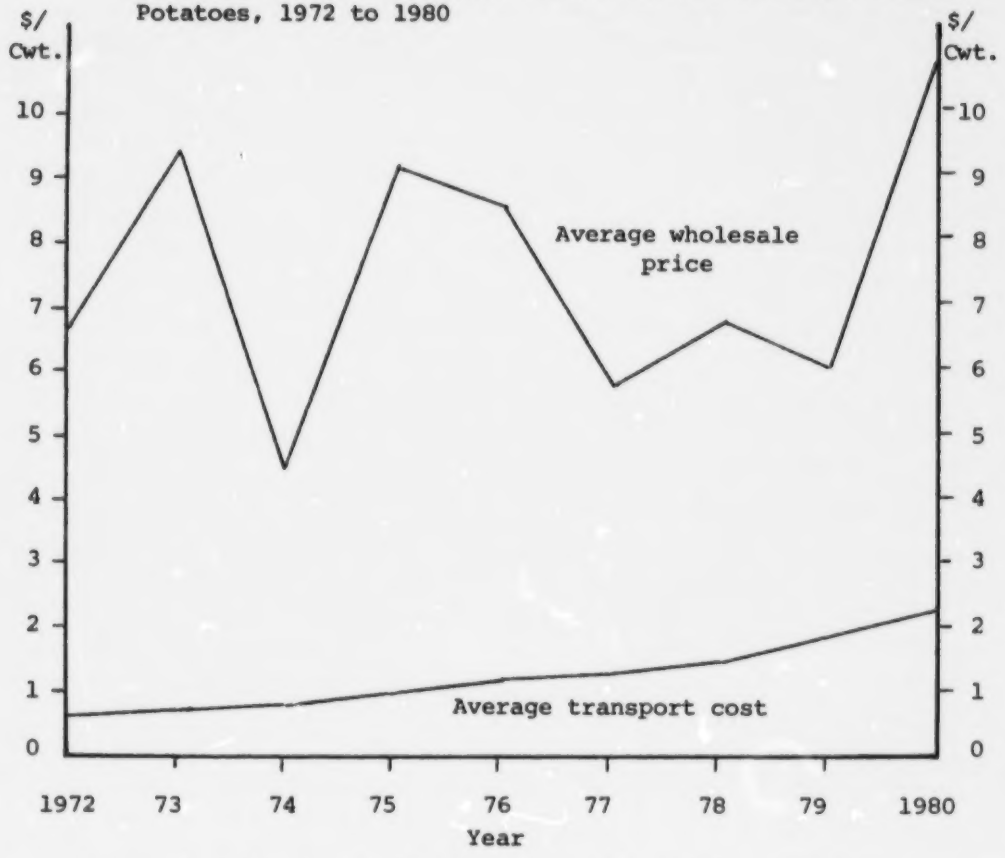
California potatoes on the other hand, have shown an increase in wholesale prices as well as in freight costs. Rail transportation rose from $2.57 per hundredweight in 1972, to $7.12 in 1980 (Table 32). During this period freight costs averaged one-third of the wholesale price.

The comparison of freight costs with the average wholesale price shows that freight costs represent an increasingly larger share of the price paid for imported potatoes in the Toronto market. As rising freight costs can be expected to continue, higher prices to cover these costs are anticipated.

GRADES OF TABLESTOCK AND QUALITY CONSIDERATIONS

In order to provide assurance of quality in tablestock potatoes, a grading system has been established in Ontario under the *Farm Products Grades and Sales Act* for potatoes from Canada, Ontario, and the United States.

Figure 3.—Comparison of Average Transport Cost and Seasonal Average Wholesale Price in Toronto Market for Prince Edward Island Potatoes, 1972 to 1980



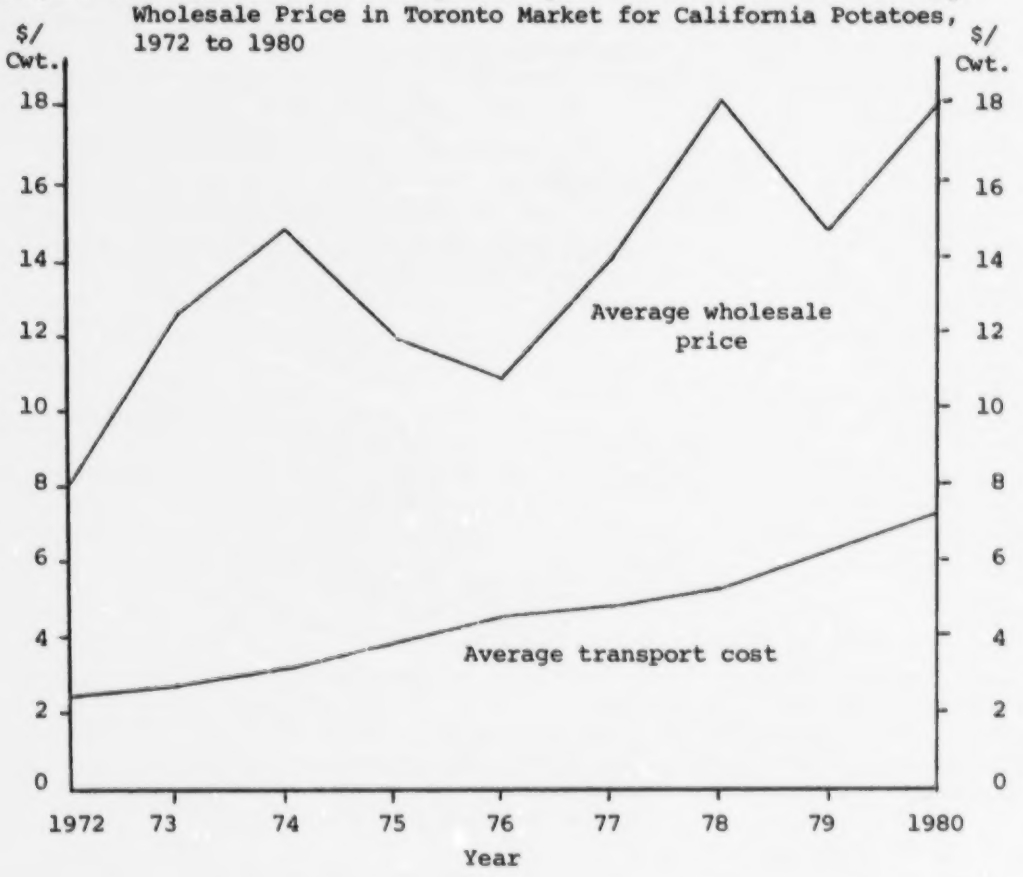
Sources: Agriculture Canada, *Fruit, Vegetable, and Honey Crop and Market Report;* and Table 34 of this report.

The requirements for the various grades are similar in terms of firmness, varietal characteristics, cleanliness, freedom from abnormalities, freedom from loose skins or exposed flesh, and freedom from damage, disease; or injury. The primary difference in the various grades is the size specification. A listing of Canada, Ontario, and United States potato grades with their respective size specification is provided below and in Table 33.

Canada	*Ontario*	*United States*
No. 1	No. 1	No. 1
No. 1 large	No. 1 large	Extra No. 1
	No. 1 small	
	No. 2	
	Mini	

It is evident that the Ontario grade allows some smaller potatoes to be included in the packing. This usually means fewer culls and a greater portion of potatoes harvested from the field for sale to consumers.

Figure 4.—Comparison of Average Transport Cost and Seasonal Average Wholesale Price in Toronto Market for California Potatoes, 1972 to 1980



Sources: Agriculture Canada, *Fruit, Vegetable, and Honey Crop and Market Report;* and Table 32 of this report.

During the winter, spring, and early summer months, large quantities of potatoes are imported from the United States. They usually enter Canada in 50- or 75-pound bags and are repacked into consumer-sized packages or sold in bulk through retail outlets. They must carry a United States inspection certificate to verify that the produce *meets Canadian Import Requirements*. Some potatoes packed according to United States grades can be imported provided they at least meet the standards of Canada No. 1. In the store, these imported potatoes are usually displayed as No. 1 or No. 1 Large (U.S. No. 1 or U.S. Extra No. 1 for those packed in the United States) and are identified as *a product of USA*.

Long variety new potatoes arriving from the United States on or before June 30, and round variety new potatoes arriving on or before September 15, may meet Canadian standards with a minimum diameter of 1 7/8 inches. New Ontario potatoes sold on or before September 15 may meet Canada No. 1, Ontario No. 1, or Ontario No. 2 standards with a minimum diameter of 1 7/8 inches.

Table 33.—Potato Grades, Canada, Ontario, and United States

Grade	Diameter specifications[a]
CANADA	
No. 1 round:[b]	
Minimum	2¼ inches
Maximum	3½ inches
No. 1 long:	
Minimum	2 inches (1 3/4" if length over 3½") with at least 60% minimum 2¼ inches
Maximum	3½ inches
No. 1 large:	
Minimum	3 inches
Maximum	4½ inches
No. 1 small:[c]	
Minimum	1½ inches
Maximum	2¼ inches
No. 2:[c]	
Minimum	1 3/4 inches with at least 75% minimum 2 inches
Maximum	4½ inches
ONTARIO	
No. 1 round:[b]	
Minimum	2 inches with at least 75% minimum 2¼ inches
Maximum	3½ inches
No. 1 long:	
Minimum	2 inches (1 3/4" if length over 3½")
Maximum	3½ inches
No. 1 large, minimum	3¼ inches
No. 1 small, minimum	1 3/4 inches
No. 2 long,[b] minimum	1 3/4 inches with minimum length 3½ inches
Other, minimum	2 inches with at least 75% minimum 2¼ inches
Mini, maximum	1 3/4 inches
UNITED STATES	
No. 1,[b] minimum	1 7/8 inches
Extra No. 1:	
Minimum	2¼ inches or 5 ounces
Maximum:	
Approximately	3½ inches or 11 ounces
Variation	1¾ inches or 6 ounces

[a] 5 percent tolerance permitted on width specifications.

[b] Minimum diameter of 1 7/8 inches permitted for new potatoes sold before September 15 for round varieties and before June 30 for long varieties.

[c] Not sold in Ontario.

Sources: Ontario Ministry of Agriculture and Food, *Ontario Farm Products Grades and Sales Act*, regulations respecting fruit and vegetables; Agriculture Canada, *Canada Agricultural Products Act*, fresh fruit and vegetables regulations; and United States Department of Agriculture, United States standards for grades of potatoes.

Consumers have a choice of both quality and price for most fruit and vegetables. Potatoes are usually packed in paper bags, therefore it is difficult for consumers to evaluate the contents and determine whether the quality is acceptable to them. If the quality of the last purchase was not found to be satisfactory, consumers may choose another brand.

A survey of 583 Ontario consumers in 1971[1] reported their response to the question, *What is the most important thing you consider when buying fresh potatoes?* The results were as follows:

1. General appearance, 37.7 percent;
2. Place where grown, 32.9 percent;
3. Price, 19 percent; and
4. Other, 10.4 percent.

This indicated a substantial consumer interest in quality. Although no current survey of consumer attitudes is available, in all likelihood this concern about potato quality continues to prevail.

IMPACT OF MARITIME PRODUCTION

The fall crop of potatoes in Ontario meets severe competition from the maritime crop. Potato prices in Ontario markets have not been generally attractive enough to growers to encourage greater Ontario production. The relationship between Ontario and maritime potato supplies in the Ontario market puts Ontario growers in a precarious situation. Prevailing circumstances in the Maritimes may have a substantial impact on the profitability of Ontario's production.

In the Maritimes, as in other parts of Canada, growers seek to produce crops that will maximize their net returns. They are more limited than Ontario growers in which crops they can produce and market efficiently. Grain crops have had limited success in some areas, and hay, cole crops, and root crops, such as rutabagas, have been grown successfully. Potatoes however, are considered the crop with the greatest potential for this region.

The local demand for maritime products is quite limited because there is a small population base, hence there is a need to export those products which can be produced efficiently. The development of maritime agriculture is therefore especially dependent on the existence of outside markets.

A myriad of government programs established in the Maritimes are designed to develop and ensure stability in potato production there. Maritime growers have received considerable support through federal stabilization programs. They have received an average of 3.8 million dollars per year during the seven-year period from 1972-73 to 1978-79.[2] Other assistance to growers includes purchase and sale programs, for fruit and vegetable storage construction programs, and several provincial loan and developmental programs. Transportation assistance on westbound shipments out of the Maritimes is estimated to be about 3 million dollars per year

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[1] Market Facts of Canada Limited, *Attitudes to Potatoes*, Toronto, April 1971.

[2] Agriculture Canada, *Agricultural Stabilization Board*.

Table 34.—Potato Production Costs in Ontario and Prince Edward Island, and Transportation Costs to Toronto, Ontario, 1972-73 to 1979-80

Year	Ontario (Alliston/Shelburne)			Prince Edward Island		
	Production[a]	Transportation[b]	Total	Production[a]	Transportation	Total
	dollars per hundredweight					
1972-73	2.47	0.28	2.75	2.28	0.80	3.08
1972-73	2.77	0.28	3.05	2.56	0.85	3.41
1973-74	3.29	0.30	3.59	3.04	0.85	3.89
1974-75	3.78	0.33	4.11	3.50	0.83	4.33
1975-76	3.92	0.33	4.25	3.63	0.98	4.61
1976-77	4.17	0.33	4.50	3.85	1.15	5.00
1977-78	4.30	0.33	4.63	3.97	1.27	5.24
1978-79	4.50	0.36	4.86	4.11	1.43	5.54
1979-80	5.01	0.47	5.48	4.40	1.84	6.24

[a]Includes all costs associated with growing and packing potatoes. Figures are based on cost of production study conducted in 1977 with the various inputs indexed for other years.

[b]Transportation cost is $0.20 per hundredweight more if packed in 5- or 10-pound bags.

Source: W.A. Rowat, *Market Sensitivity to Maritime Potato Transportation Rates*, Department of Regional Economic Expansion, April 1978. Supplementary updating of figures from Rowat study conducted by Agriculture Canada in 1980.

for tablestock potatoes and about 1.5 million dollars per year for processed potato products.[1] Incentives under the *Regional Development Incentives Act* for the expansion and modernization of packing and processing facilities are also significant. Contributions under this program in the Maritimes have generally been in excess of 1 million dollars per year in recent years.[2] In total, these programs encourage the growth and development of the potato industry in the Maritimes in spite of frequently unfavorable market prospects.

Historically, Ontario has been a large consumer of maritime potatoes. Much of the recent development of the maritime potato industry has been aimed at increasing supplies to the Ontario market.

A comparison of the costs associated with marketing Ontario and Prince Edward Island potatoes in Toronto is made in Table 34. Ontario has a somewhat higher cost of production than Prince Edward Island. This is mainly attributed to higher land costs and a lower average yield in Ontario. However, the substantially lower transportation costs within

[1]Estimated by *Strategic Planning Unit*, Transport Canada.

[2]*Reports to Parliament in Regional Development Incentives*, Department of Regional Economics Expansion.

Ontario more than offset the higher production costs and make the total landed cost to Toronto somewhat lower for Ontario potatoes than for Prince Edward Island potatoes.

These higher costs for Prince Edward Island potatoes are generally recovered in the market by pricing Prince Edward Island potatoes above Ontario potatoes. Retail stores often carry tablestock from both provinces, with Prince Edward Island potatoes selling at a premium price compared with local Ontario supplies. This premium can generally be maintained in the market, because consumers have customarily been willing to pay slightly more for Prince Edward Island potatoes.

Except for the stabilization support to growers in some years, the Ontario potato industry largely operates without financial assistance from outside sources. Based on the prospects in the market, Ontario growers seek to produce crops that will maximize their net returns from their available production resources. Several factors influence a growers's choice of enterprises. These include the amount of land, labor, and capital required; the degree of risk and uncertainty to be undertaken; and the level of production and marketing expertise needed. Because growers generally have considerable opportunity to produce and market a number of alternatives in Ontario, potato production is judged against other production alternatives on the basis of the above criteria.

Any adjustment in Ontario's potato production must be considered within the context of the overall potato production in eastern Canada and specifically with regard to the size and development of the potato industry in the Maritime Provinces.[1] This perspective is necessary to develop and maintain viable potato production units in Ontario that can operate at an efficient capacity.

ECONOMIC DEVELOPMENT OF THE POTATO INDUSTRY IN ONTARIO

Ontario is a deficit producing province for potatoes. It supplies only a portion of its own requirements and relies on imports for the balance of its needs. While some of Ontario's production is exported, most of it stays within the Province for local consumption. Many changes are expected in the potato industry within Ontario and in other areas, and some adjustments will be required if the industry is to continue to meet consumer demand and provide an adequate return to Ontario's potato growers.

Rising energy costs and general inflation continue to increase the cost of both imported and local production. The cost of acquiring imported supplies versus the cost of producing local supplies needs to be recognized so that the Ontario market can be supplied in the most efficient manner.

Some evaluation of consumer demand is also essential. The consumers' interest in the type and quality of potatoes and potato products offered for sale needs consideration. The wishes of consumers must be judged against any additional costs involved in satisfying them. Also, any

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[1] Potato production in eastern Canada is a topic of much concern of members of the eastern *Canada Potato Growers' Council*. Comments from discussions by the Council are often cited in the magazine, *The Grower*.

changes in consumer buying habits for potatoes and potato products must be recognized so that Ontario production and the market process can readily adapt to these changes.

The application of innovative techniques designed to lower costs, or increase market returns will have to be given consideration. This may involve the introduction of new or improved varieties, different cultural practices, or improvements in grading, handling, and storage. The benefits from these types of technological changes are worth investigation in order to maintain a modern and efficient industry.

Moreover, because Ontario is greatly affected by crop conditions, production levels, storage stocks, and prices in other areas, good use of available market news is essential. This is important if Ontario is to have coordination and good planning of its markets.

Competition between Ontario and imported supplies can be expected to remain intense in most years. Therefore, for Ontario to be an effective supplier of its own market, Ontario producers and others involved in the marketing chain will have to be able to adjust to economic conditions and to the wishes of consumers.

APPENDIX

PER CAPITA CONSUMPTION TABLES

Appendix Table 1.—Per Capita Consumption of Frozen Potatoes in Canada, 1972-73 to 1978-79

Year	Gross supply: Production, Retail weight	Gross supply: Production, Fresh equiv.[a]	Gross supply: Imports, Retail weight	Gross supply: Imports, Fresh equiv.[a]	Gross supply: Total, Retail weight	Gross supply: Total, Fresh equiv.[a]	Exports, Retail weight	Exports, Fresh equiv.[a]	Net supply, Retail weight	Net supply, Fresh equiv.[a]	Population[b]	Per capita consumption, Retail weight	Per capita consumption, Fresh equiv.[a]
	'000 pounds										'000	pounds	
1972-73	225,039	562,598	1,575	3,937	226,614	566,535	17,445	43,612	209,169	522,923	21,922	9.5	23.9
1973-74	277,767	694,418	7,885	19,712	285,652	714,130	15,828	39,570	269,824	674,560	22,203	12.2	30.4
1974-75	351,957	879,892	2,479	6,198	354,436	886,090	42,156	105,390	312,280	780,700	22,531	13.9	34.7
1975-76	364,366	910,915	2,710	6,775	367,076	917,690	23,690	59,225	343,386	858,465	22,845	15.0	37.6
1976-77	397,967	994,918	14,418	36,045	412,385	1,030,963	63,526	158,815	348,859	872,148	23,125	15.1	37.7
1977-78	421,289	1,053,223	6,212	15,530	427,501	1,068,753	14,544	36,360	412,957	1,032,393	23,370	17.7	44.2
1978-79[c]	475,000	1,187,500	4,396	8,490	478,396	1,195,990	43,444	108,610	434,952	1,087,380	23,576	18.4	46.1

[a]Conversion factor from retail to fresh equivalent: 2.5.

[b]Population for crop year using June population estimates for the 2 years included in crop year.

[c]Estimate.

Sources: Statistics Canada, *Products Shipped by Canadian Manufacturers*, Catalogue No. 31-211; *Exports by Commodities*, Catalogue No. 65-004; *Imports by Commodities*, Catalogue No. 65-007; and *Estimates of Population for Canada and the Provinces*, Catalogue No. 91-201.

Appendix Table 2.—Per Capita Consumption of Potato Chips and Frills in Canada, 1972-73 to 1978-79

Year	Gross supply						Exports		Net supply			Per capita consumption	
	Production		Imports		Total								
	Retail weight	Fresh equiv.[a]	Retail weight	Fresh equiv.[b]	Retail weight	Fresh equiv.	Retail weight	Fresh equiv.	Retail weight	Fresh equiv.	Population	Retail weight	Fresh equiv.
	'000 pounds										'000	pounds	
1972-73	101,390	413,671	161	1,208	101,551	414,879	..	..	101,551	414,879	21,922	4.6	18.9
1973-74	120,663	492,305	538	4,035	121,201	496,340	..	..	121,201	496,340	22,203	5.5	22.5
1974-75	134,104	547,144	2,787	20,903	136,891	568,047	..	..	136,891	568,047	22,531	6.1	25.2
1975-76	104,670	427,054	4,560	34,200	109,230	461,254	..	..	109,230	461,254	22,845	4.8	20.2
1976-77	110,368	450,301	6,498	48,735	116,866	499,036	..	..	116,866	499,036	23,125	5.1	21.6
1977-78	119,472	487,446	7,062	52,965	126,534	540,411	..	..	126,534	540,411	23,370	5.4	23.1
1978-79[c]	129,000	526,320	4,869	36,518	133,869	562,838	..	..	133,869	562,838	23,576	5.7	23.9

[a]Conversion factor from retail weight to fresh equivalent: 4.08.

[b]Conversion factor from retail weight to fresh equivalent: 7.5.

[c]Estimate.

Sources: Statistics Canada, *Products Shipped by Canadian Manufacturers*, Catalogue No. 31-211; *Imports: Merchandise Trade Commodity Detail*, Catalogue No. 65-207; and Ministry of Finance, Tariff Board Report Ref. 152, *Fresh and Processed Fruits and Vegetables*, Vol. 2, 1978 (adjusted to crop year basis).

.. = Nil.

Appendix Table 3.—Per Capita Consumption of Dehydrated Potatoes in Canada, 1972-73 to 1978-79

Year	Gross supply: Production, Retail weight	Gross supply: Production, Fresh equiv.[a]	Gross supply: Instant mashed, Retail weight	Gross supply: Instant mashed, Fresh equiv.[b]	Gross supply: Dried, Retail weight	Gross supply: Dried, Fresh equiv.[c]	Gross supply: Total, Retail weight	Gross supply: Total, Fresh equiv.	Exports[d], Retail weight	Exports[d], Fresh equiv.[c]	Net supply, Retail weight	Net supply, Fresh equiv.	Population[e]	Per capita consumption, Retail weight	Per capita consumption, Fresh equiv.
	'000 pounds												'000	pounds	
1972-73	24,857	198,856	1,738	15,642	1,577	11,828	28,172	226,326	11,705	87,788	16,467	138,538	21,922	0.8	6.3
1973-74	28,088	224,704	1,141	10,269	2,388	17,910	31,617	252,883	9,311	69,833	22,306	183,050	22,203	1.0	8.2
1974-75	45,246	361,968	836	7,524	2,074	15,555	48,156	385,047	4,541	34,058	43,615	350,989	22,531	1.9	15.6
1975-76	33,953	271,624	1,037	9,333	1,944	14,580	36,934	295,537	6,171	46,283	30,763	249,254	22,845	1.3	10.9
1976-77	36,305	290,440	1,322	11,898	2,601	19,508	40,228	321,846	12,998	97,485	27,230	224,361	23,125	1.2	9.7
1977-78[f]	39,000	312,000	1,070	9,630	2,893	21,698	42,963	343,328	7,066	52,995	35,897	290,333	23,370	1.5	12.4
1978-79[f]	41,000	328,000	747	6,723	3,720	27,900	45,465	362,623	17,071	128,033	28,394	234,590	23,576	1.2	10.0

[a]Conversion factor from retail weight to fresh equivalent: 8.0.

[b]Conversion factor from retail weight to fresh equivalent: 9.0.

[c]Conversion factor from retail weight to fresh equivalent: 7.5.

[d]Exports of dried vegetables from Nova Scotia, New Brunswick, and Alberta.

[e]Population for crop year using June population estimates for the two years in the crop.

[f]Estimate.

Sources: Statistics Canada, *Miscellaneous Food Processors*, Catalogue No. 32-224; *Products Shipped by Canadian Manufacturers*, Catalogue No. 31-211; *Exports by Commodities*, Catalogue No. 65-004; *Imports by Commodities*, Catalogue No. 65-007; and *Estimates of Population for Canada and the Provinces*, Catalogue No. 91-201, and provincial exports printouts.

Appendix Table 4.—Per Capita Consumption of Prepeeled Potatoes in Ontario, 1972-73 to 1978-79

Year	Production	Population[a]	Per capita consumption
	'000 lbs.	'000	lbs.
1972-73	6,000	7,860	0.8
1973-74	6,000	7,982	0.8
1974-75	7,000	8,113	0.9
1975-76	7,000	8,218	0.9
1976-77	8,003	8,309	1.0
1977-78	9,779	8,399	1.2
1978-79	13,303	8,472	1.6

[a]Population for crop year using June population estimates for 2 years included in crop year.

Sources: Ontario Potato Growers' Marketing Board; and Statistics Canada, *Estimates of Population for Canada and the Provinces*, Catalogue No. 91-201.

Appendix Table 5.—Per Capita Consumption of Potato Starch and Flour in Ontario, 1972-73 to 1978-79

Year	Food imports		Industrial imports		Total imports		Population	Per capita consumption	
	Retail weight	Fresh equiv.[a]	Retail weight	Fresh equiv.[a]	Retail weight	Fresh equiv.[a]		Retail weight	Fresh equiv.[a]
	'000 pounds						'000	pounds	
1972-73	696	6,264	1,818	16,363	2,514	22,627	7,860	0.3	2.9
1973-74	2,020	18,180	1,531	13,776	3,551	31,956	7,982	0.4	4.0
1974-75	2,297	20,673	1,018	9,163	3,315	29,836	8,113	0.4	3.7
1975-76	2,022	18,198	2,768	24,912	4,790	43,110	8,218	0.6	5.2
1976-77	2,367	21,303	916	8,245	3,283	29,548	8,309	0.4	3.6
1977-78	2,557	23,013	1,259	11,334	3,816	34,347	8,388	0.5	4.1
1978-79	2,570	23,130	1,511	13,595	4,081	36,725	8,472	0.5	4.3

[a]Conversion factor from retail weight to fresh equivalent: 9.0.

Sources: Statistics Canada, *External Trade Division*, Catalogue Nos. 69-20 (Potato Starch and Flour), and 429-74 (Industrial Starch).

NOTE: Approximately 5 percent of United States imports and 50 percent of Netherlands imports of industrial starch was found to consist of potato starch.

Appendix Table 6.—Per Capita Consumption of Canned Potatoes in Ontario, 1972-73 to 1978-79

Year	Gross supply: Production	Gross supply: Imports			Exports		Net supply		Per capita consumption
	Fresh equiv.	Retail weight	Fresh equiv.[a]	Total	Retail weight	Fresh equiv.[a]	Fresh equiv.	Population[b]	fresh equiv.
	'000 pounds							'000	pounds
1972-73	9,265	67	105	9,370	3	5	9,365	7,860	1.2
1973-74	9,738	212	333	10,021	2	3	10,068	7,982	1.3
1974-75	10,020	110	173	10,193	3	5	188	8,113	1.3
1975-76	11,250	90	141	11,391	32	50	11,341	8,218	1.4
1976-77	9,454	287	451	9,905	500	785	120	8,309	1.1
1977-78	10,471	204	320	10,791	..	..	10,791	8,399	1.3
1978-79	10,428	43	68	10,496	..	..	10,496	8,472	1.2

[a]Conversion factor for retail to fresh equivalent: 1.57.

[b]Population for crop year using June population estimates for 2 years included in crop year.

Sources: Ontario Potato Growers' Marketing Board; and Statistics Canada, Import and Export Printout, and *Estimates of Population for Canada and the Provinces*, Catalogue No. 91-201.

.. = Nil.

TWO-TIER PRICING SYSTEM[a]

PURPOSE

1. To introduce some price stabilization in the event of a depressed market.
2. To provide opportunity to increase consumption of Ontario potatoes through promotional/export activity and reduction of early imports.
3. To remove the relative advantage to out-of-province processors who can purchase at below board prices, but who market the finished product in Ontario.

METHOD

1. To introduce a two-tier pricing system that:
   a. Provides for Tier 1 purchases at prices and conditions negotiated as per the Plan; and
   b. Permits the purchase of potatoes in limited quantities as per the Plan, but at prices indexed to the tablestock market, to be referred to as Tier No. 2.

QUANTITIES

Tier No. 1:
Quantities to be determined by contracts signed by April 1.

Tier No. 2:
French fries, dehydrated, and prepeelers, 30 percent of Tier No. 1.
Chips, soups and stews, 20 percent of Tier No. 1.

PRICES

Tier No. 1:
To be negotiated under the Plan.

Tier No. 2:
A single price for potatoes sold on tablestock market will be published weekly in the OMAF *Weekly Potato Summary*. The agreement will permit the additional potatoes purchased on Tier No. 2 to be sold at or above that price.

TERMS AND CONDITIONS

1. Contracts for Tier No. 1 signed by April 1 provide the base to determine optional Tier No. 2 quantities.
2. Contracts established after April 1 will be Tier No. 1 and will not offer a Tier No. 2 option.
3. Tier No. 2 purchases are always optional to both grower and processors.
4. Should Tier No. 2 purchases exceed the allowable limit (percentile of Tier No. 1), and should Tier No. 1 price exceed the Tier No. 2 price, prices will automatically revert to Tier No. 1. The recovery of the price difference, if any, will be by assessment through the Board.
5. Grade of Tier No. 2 will be the same as negotiated for Tier No. 1.
6. Inspection of Tier No. 2 purchases is optional.
7. Tier No. 2 options for *earlies* have to be taken up between July 1 and August 15, and Tier No. 2 *lates* between August 16 and June 30 of the following year. No transfer between earlies and lates permitted either way.
8. Growers with Tier No. 1 contracts with a processor have first right of refusal to Tier No. 2. If there is no agreement, the processor is free to purchase from any grower whether or not he has a Tier No. 1 contract with a processor.

[a]The two-tier pricing system is no longer in effect as of March 1981.

Source: *Ontario Potato Growers' Marketing Board*, February 1978.

SAMPLE POTATO CONTRACT FOR POTATO CHIPS

HOSTESS FOOD PRODUCTS LIMITED
(Farm Operations Division)
R. R. #1
Elmvale, Ontario
L0L 1P0

POTATO CONTRACT FOR 1980

HOSTESS FOOD PRODUCTS LIMITED (Farm Operations Division)

agrees to purchase potatoes from

_____of_____

according to the following terms:

QUANTITY_____cwt

VARIETY(s)_____

DELIVERY PERIOD_____

CWT DELIVERED PER
WEEK/DAY_____

PRICE PER CWT:

July 1-6/80	$6.35	Nov.1-30/80	$4.17
July 7-13/80	6.10	Dec. 1-31/80	4.39
July 14-20/80	5.85	Jan. 1-31/81	4.61
July 21-27/80	5.60	Feb. 1-28/81	4.83
July 28-Aug. 3/80	5.35	Mar. 1-31/81	5.05
Aug. 4-10/80	4.95	Apr. 1-30/81	5.27
Aug. 11-31/80	4.25	May 1-31/81	5.49
Sept. 1-Oct. 31/80	3.75	June 1-30/81	5.71

Prices from July 1 - October 31, F.O.B. Cambridge or Alliston.

Prices from November 1, 1980 - June 30, 1981, F.O.B. farm.

All potatoes subject to this Contract shall be grown in Ontario and sold to Hostess Food Products Limited (Farm Operations Division) by the Grower upon the terms and conditions as set out in the provisions of the Farm Products Marketing Act, and the Regulations, and the Agreement for Marketing of the 1980 crop of potatoes for Chip Processing shall apply to and form part of this Contract.

Licence number_____

Date_____

_____
Grower

_____
HOSTESS FOOD PRODUCTS LIMITED
(Farm Operations Division)

BIBLIOGRAPHY

Agriculture Canada. *Fruit, Vegetable, and Honey Crop and Market Report*, Ottawa, (weekly).

_____. *Crop and Seasonal Price Summaries*, Part II, Ottawa, (annual).

Agriculture Canada and Transport Canada. *Cost of Potato Production, 1977, Prince Edward Island, Ontario, New Brunswick and Quebec*, Ottawa, March 1978.

Bodnar, L. *Potatoes in Ontario*, Toronto: Ontario Ministry of Treasury and Economics, 1968.

British Columbia Legislature. *The Impact of the Department of Regional Economic Expansion in the Food Industry in Western Canada*, August 1978.

Campbell, B. *Estimated Cost of Growing Potatoes*, Toronto: Ontario Ministry of Agriculture and Food, 1978.

Department of Regional Economic Expansion. *Market Sensitivity to Maritime Potato Transportation Rates*, Ottawa, April 1978.

Food Prices Review Board. *Table Potatoes*, Ottawa, May 1975.

Ministry of Finance, Report by the Tariff Board. *Fresh and Processed Fruit and Vegetables*, Ref. 152, Vol. I, Part II, Commodity Reports, Ottawa, 1977.

Ontario Fruit and Vegetable Growers' Association. *The Grower*.

Ontario Ministry of Agriculture and Food. *Agricultural Statistics for Ontario*, Toronto, (annual).

_____. *Weekly Potato Summary*.

Statistics Canada. *Exports by Commodities*, Cat. No. 62-005, Ottawa, (monthly).

Talburt, W.F., and Ora Smith. *Potato Processing*, Westport, Conn.: Avi Publishing Co., 1975.

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